The OIL AND GAS JOURNAL

SEP 8 1938

41

SEPTEMBER 1
1938

PRICE
0 CENTS

SPEED

ALONE means little
but coupled with

SAFETY

IT MEANS

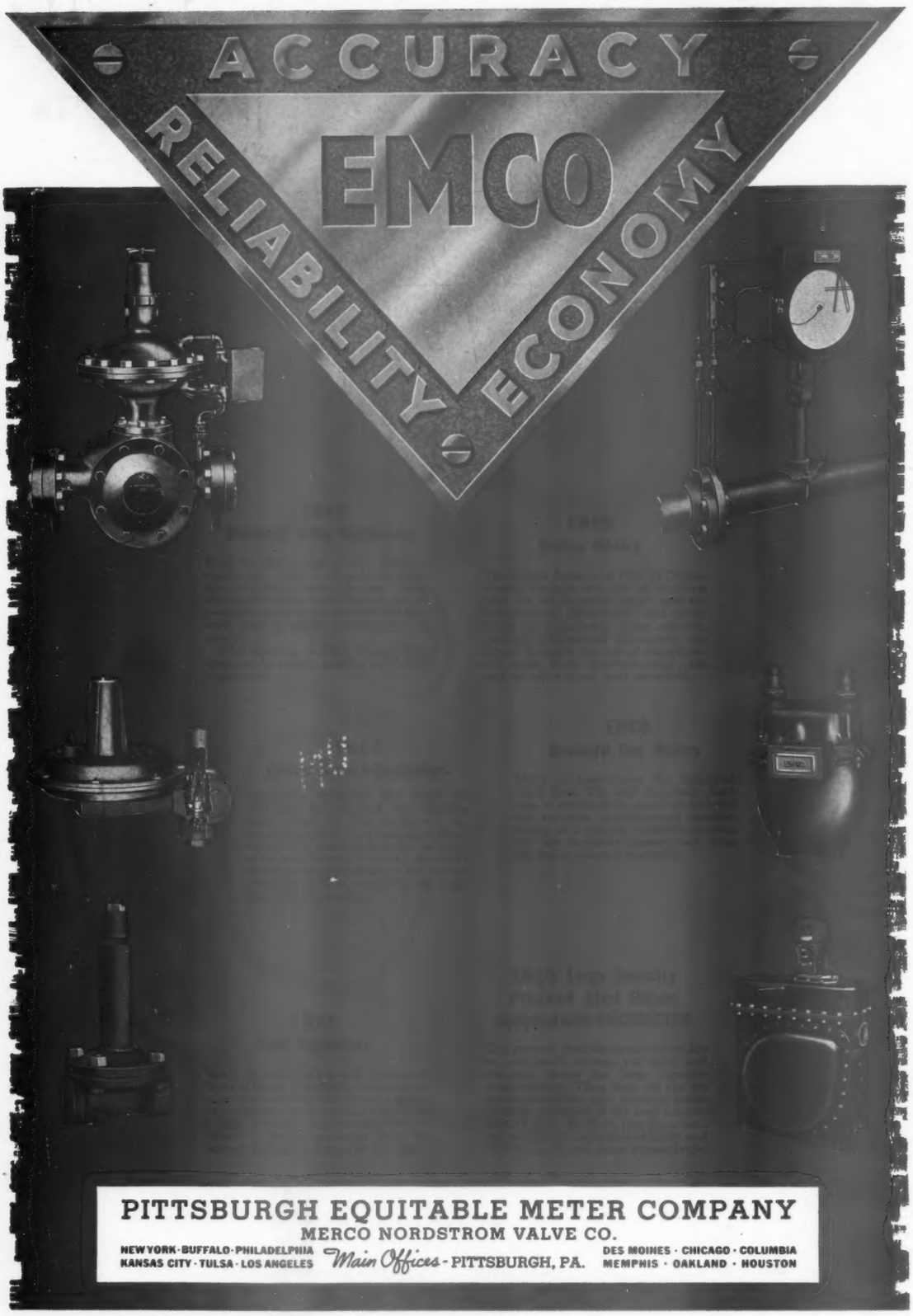
Leadership

"Around the world
and through it"

"From Grass Roots to Bottom" in Rotary fields throughout the world Hughes Tricone Rock Bits daily prove the correctness of the above statement.

And remember—Hughes Rock Bits are designed and built for special ranges of formations—a further guarantee of maximum results.

HUGHES TOOL COMPANY
Houston, Texas, U. S. A.


ACCURACY
EMCO
RELIABILITY
ECONOMY
PITTSBURGH EQUITABLE METER COMPANY
MERCO NORDSTROM VALVE CO.
NEW YORK · BUFFALO · PHILADELPHIA
KANSAS CITY · TULSA · LOS ANGELES
Main Offices - PITTSBURGH, PA.
DES MOINES · CHICAGO · COLUMBIA
MEMPHIS · OAKLAND · HOUSTON

The Oil and Gas Journal

PUBLISHED WEEKLY BY THE PETROLEUM PUBLISHING COMPANY AT TULSA, OKLAHOMA

P. C. LAUINGER, *President* — *Editor*, C. O. WILLSON

W. T. ANDERSON, *Managing Editor* — JAMES McINTYRE, *Consulting Editor*

W. T. ZIEGENHAIN, *Engineering Editor* — L. G. E. BIGNELL, *Prod. Engineering Editor*

C. K. FRANCIS, Ph. D., *Technical Editor* — W. L. NELSON, *Metallurgical Editor*

Associate Editors

T. F. SMILEY — T. P. SANDERS

DAL DALRYMPLE — PAUL REED

District Editors

Houston, *Sterling Bldg.*
NEIL WILLIAMS — F. L. SINGLETON

Fort Worth, *Petroleum Bldg.*
D. H. STORMONT

Shreveport, *City Bank Bldg.*
GEORGE WEBER

Los Angeles, *Union Oil Bldg.*
L. P. STOCKMAN

Washington, *Natl. Press Bldg.*
HENRY D. RALPH

Saginaw, *News Bldg.*
O. C. PRESSPRICH

Denver, *State Office Bldg.*
TOLBERT R. INGRAM

New York, *415 Lexington Ave.*
H. STANLEY NORMAN

Oil City, *Derrick Bldg.*
J. P. O'DONNELL

Chatham, Ontario, *Box 136*
VICTOR LAURISTON

S. H. ROURKE, *Business Manager*

M. F. BALDWIN, *Circulation Manager*

Advertising

E. KLAPPENBACH, Vice President

New York, *415 Lexington Ave.*
C. L. CAIN

Cleveland, *Leader Bldg.*
HOWARD MARKT

Chicago, *300 W. Adams St.*
C. R. FARMER

Tulsa, *114 W. 2nd St.*
KENNETH J. LANGLEY

Houston, *Sterling Bldg.*
WAYNE RIVES

Los Angeles, *1406 S. Grand Ave.*
J. HOWARD TINKHAM

Cologne, Germany—*1 Laudahnstrasse*
A. J. CHAMBERS

Table of Contents

Vol. 37, No. 16 — September 1, 1938

News Developments

Summary ... 9
Sparks From the News ... 10
Texas Conservation to Continue, Says New Commissioner ... 11
Texas Panhandle Now Center of Carbon Black Industry ... *Paul Reed* 12
Hope Note May Yet Save Expropriated Properties ... *H. Stanley Norman* 14
Bloomer-Habiger-Stumps Area Developing Into Major Field ... *Dal Dalrymple* 15
Gulf Port Shipments Expected to Increase ... *Neil Williams* 16
Lease Play in Illinois Basin Presents Problems ... 18
Crude Price Revisions in Texas Fields ... 20
Editorial: No Crisis ... 21
Programs and Meetings ... 22
Origin and Accumulation of Oil Is Sagely Debated ... *L. G. E. Bignell* 23
State Capitals ... 25
Pipe Line Activity and Natural Gas ... 26
Refinery Expansion and Natural Gasoline News ... 27
Obituaries ... 28

Engineering—Operating

Whipstocks Are Being Used in Deepening of California Field ... *T. P. Sanders* 30
Drilling Rig Uses Steam and Internal Combustion Engines ... 32
Gasoline Plant in West Texas Obtains Gas From 179 Wells ... *D. H. Stormont* 33
Advantages Gained by Use of Welded Casing in Oil Wells ... *E. W. P. Smith and R. L. Looney* 34
Safety Features on Drilling Rigs ... 38
Operating Ideas ... 41
Flash Test Is Useful for Judging Application of Light Oils ... *W. L. Nelson* 42
Better Completions Reduce Oil-Gas Ratio in Goldsmith Field ... *D. H. Stormont* 45
Well Potentials Are Being Determined by Use of Sound Waves ... *L. G. E. Bignell* 49
Problems From Readers ... *L. G. E. Bignell* 51
Questions on Technology ... *C. K. Francis, Ph.D.* 53

Field Operations

Field Operations Summarized ... 55
Illinois-Kentucky-Ohio ... 56
Eastern Fields ... *Staff Correspondent* 60
Southwest Texas ... *F. L. Singleton* 61
Louisiana and Arkansas ... *George Weber* 64
California ... *L. P. Stockman* 66
Gulf Coast ... *Neil Williams* 69
North and East Texas ... *D. H. Stormont* 71
Among Drilling Contractors ... 72
Michigan ... *Otto C. Pressprich* 74
Kansas ... *Dal Dalrymple* 75
Canada ... *Victor Lauriston* 78
Rocky Mountain Area ... *T. R. Ingram* 79
Oklahoma ... *Dal Dalrymple* 83
West and Central Texas and Panhandle ... *D. H. Stormont* 87
Wildcat Operations ... 89
Key to Abbreviations ... 89
New York-Pennsylvania Gas ... 90

Markets and Prices

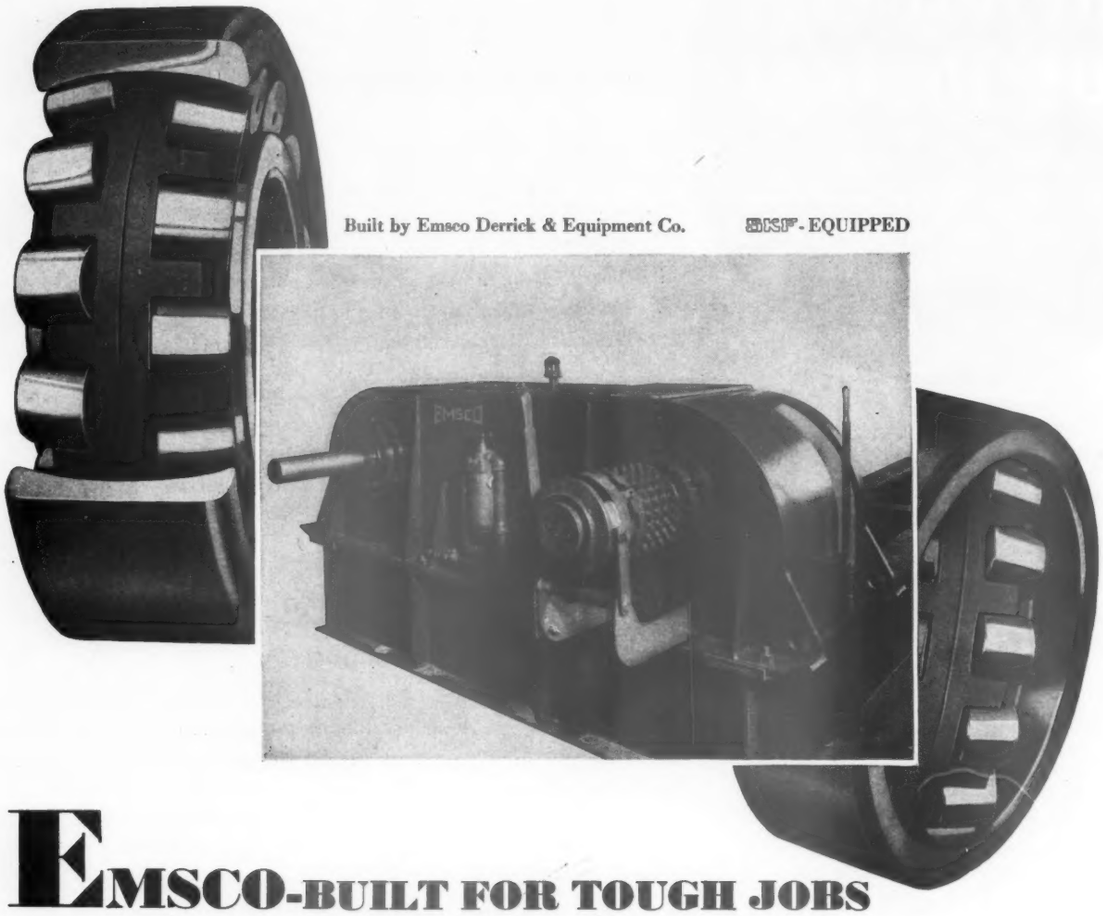
Group 3 Market ... *T. F. Smiley* 100
New York Market ... *H. Stanley Norman* 101
A.P.I. Refinery Report ... 101
Tank-Wagon Market ... 102
Refinery Prices ... 103
Crude Prices ... 104

Additional Features

Oil Man's Calendar ... 22
Personal Paragraphs ... 98
Record of Oil Securities ... 105
Equipment News ... 106
Classified Advertising ... 110
Advertisers' Index ... 112

SUBSCRIPTIONS: United States, 1 year, $6.00; 6 months, $3.00. Elsewhere, 1 year, $7.00; 6 months, $3.50. SINGLE COPIES: 20 cents. Price of any back copy more than 1 year old is 50 cents.

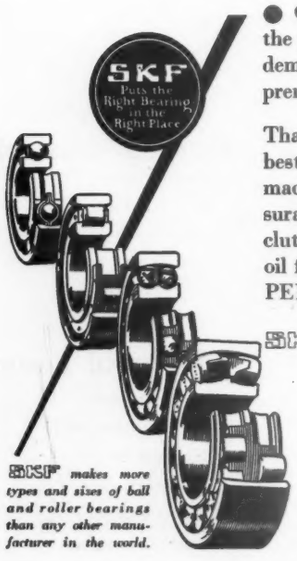
Copyright, 1938, by The Petroleum Publishing Company



Built by Emsco Derrick & Equipment Co. SKF-EQUIPPED

EMSCO-BUILT FOR TOUGH JOBS

SKF-EQUIPPED FOR 'LIFE'



SKF makes more types and sizes of ball and roller bearings than any other manufacturer in the world.

● Only bearings that can take heavy loads continuously can stand the pace in this Emsco Drive Transmission. Every day brings new demands for reliability . . . stamina . . . performance. And their supreme test is to run year after year without "laying down on the job."

That's why SKF Spherical Bearings are used. Nothing but the best of steels goes into them. Precision workmanship . . . special machinery . . . and, above all, skilled craftsmen are additional insurance against bearing trouble. And as on Emsco draw-works, clutches, hoists, retractable units and other equipment used in the oil fields during the last 10 years, SKF is proving that in a bearing, PERFORMANCE is the thing that really counts.

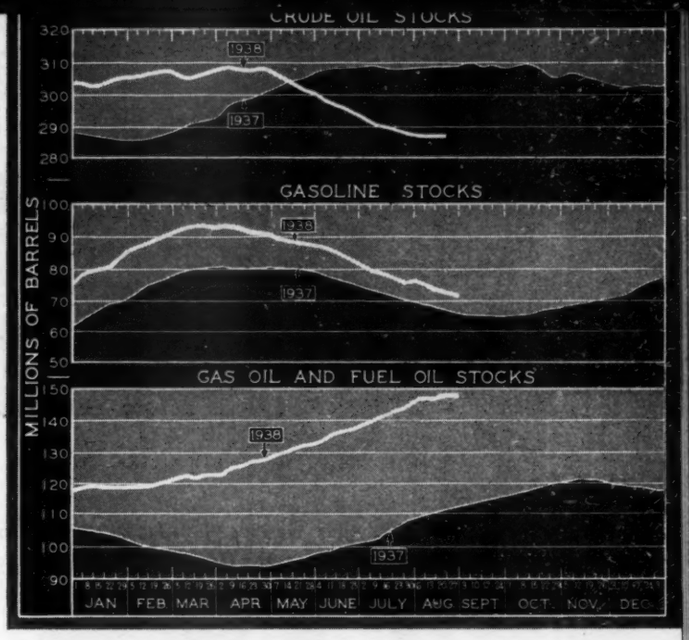
SKF INDUSTRIES, INC., PHILADELPHIA, PENNA.

4146

SKF
BALL & ROLLER BEARINGS

Trends

Stabilizing Price in East Texas; Increase for High Grade Crude



THE East Texas crude price situation was relieved somewhat when one of the smaller crude purchasers announced on Monday that effective September 1 it would pay $1.25 per barrel for crude from that big field. This price was 5 cents higher than the price posted by another of the smaller companies on August 20, and was met by that company and by Stanolind Oil Purchasing Co., the first of the large purchasers to change from the $1.35 posted price. On the same day Humble Oil & Refining Co. met the $1.25 price and made it effective on August 29, as did Stanolind.

CRUDE PRODUCTION *3,395,059 barrels daily average—down 1,997. One year ago 3,735,393 barrels.*

CRUDE STOCKS *285,137,000 barrels as of August 20—down 1,114,000. One year ago—309,699,000 barrels.*

GASOLINE STOCKS *71,754,000 barrels as of August 27—down 955,000. One year ago—66,997,000 barrels.*

GAS AND FUEL OIL STOCKS *146,926,000 barrels as of August 27—down 254,000. One year ago—112,111,000 barrels.*

REFINERY RUNS *3,255,000 barrels daily week ending August 27—down 10,000. One year ago 3,425,000 barrels.*

An important change was made by Humble Oil & Refining Co. in the prices it pays for oil of 41 gravity and over. About 150,000 barrels per day of this high grade crude oil and distillate is produced in Texas, but it has been given the posted price for oil of 40 gravity and over. The Humble company effective August 29 revised its gravity schedules, making 45 gravity and in some cases 50 gravity its top grade, and posting a 2-cent increased differential for each degree from 41 gravity upward resulting in a 10-cent advance in some cases and a 20-cent advance in others for the highest gravity posted.

The Humble's schedule increases the top price in Texas to $1.61 per barrel which is the price posted for 50-gravity oil in the Refugio district. Other notable tops are $1.56 for 50-gravity crude in Anahuac, Dickinson, Turtle Bay, Gillock, Cedar Point and Fairbanks and $1.54 for 50-gravity oil in Satsuma.

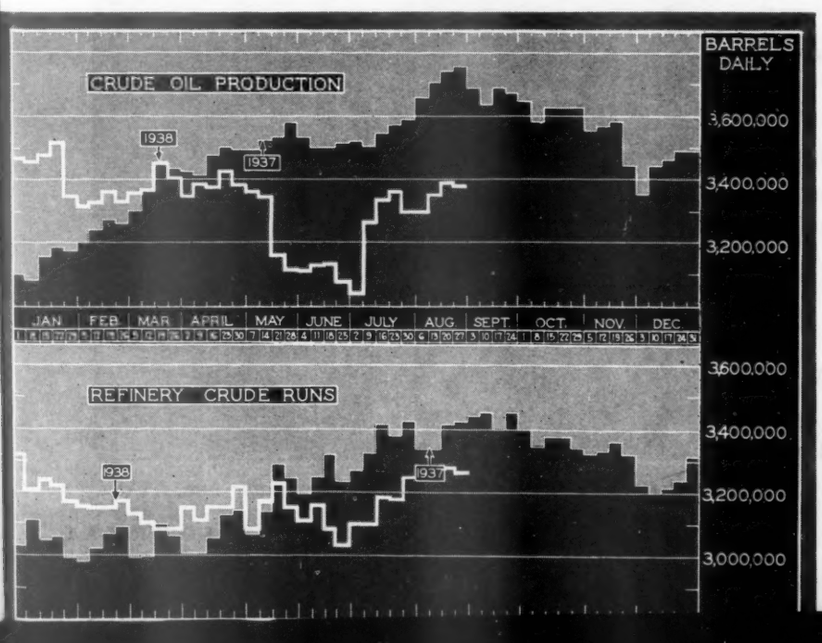
The Texas Railroad Commission performed an important service to the industry when it ordered a resumption of the Saturday shutdown of fields in September, and continued the Sunday shutdown. This will give Texas refiners an opportunity to dispose of a part of their big surplus of gasoline made from Texas crude, and is believed to have forestalled pipe line proration in the state. Other states took cognizance of the approach of the peak in gasoline consumption and made September allowables conform to the general situation.

Illinois fields increased their production to 69,464 barrels per day in the past week, or 7,259 barrels per day more than in the previous week, and are expected to continue their upward trend in output for some time. The newer fields in Clinton, Marion, and Fayette counties and the revival in Clay County are responsible for the steady increase in output.

General feeling that gasoline stocks in the United States will not be brought down to an economic level by the first of October was a major factor in a further softening of the gasoline market this week, with quotations falling in most areas. Other contributing causes were failure to reduce refinery operations to a proper level in some areas, uneasiness over crude prices, and doubt concerning the rate of consumption.

DAILY AVERAGE PRODUCTION FOR WEEK

	Aug. 27, 1938	Bur. Mines Aug. est.	Aug. state allowables	Aug. 20, 1938
Oklahoma City	96,775	.....	.....	123,250
Fitts	40,725	.....	.....	39,250
Remainder of state	299,550	.....	.....	280,900
Total Oklahoma	437,050	529,700	428,000	443,400
East Texas	441,200	.....	.....	440,798
West Texas	218,950	.....	.....	220,050
North Central Texas	105,548	.....	.....	104,650
Texas Panhandle	73,650	.....	.....	75,402
East Central Texas	96,750	.....	.....	97,697
Gulf Coast Texas	350,700	.....	.....	348,200
Southwest Texas	108,349	.....	.....	106,750
Total Texas	1,395,147	1,377,800	1,614,805	1,393,547
North Louisiana	79,150	.....	.....	78,775
Gulf Coast Louisiana	188,150	.....	.....	182,300
Total Louisiana	267,300	256,100	256,712	261,075
California	675,200	649,300	610,000	683,250
Kansas	165,375	169,300	165,500	168,075
Arkansas	57,155	53,900	.....	55,770
Illinois	69,464	45,800	.....	61,705
Michigan	49,968	60,000	.....	49,154
Eastern fields	93,600	102,300	.....	97,100
New Mexico	107,010	112,300	107,000	106,930
Rocky Mountain area	77,790	81,600	.....	77,050
Total United States	3,395,059	3,438,100	.....	3,397,056



SPARKS FROM THE NEWS

MIGHT HELP

If the federal, state and city litigation over California tidelands could be prolonged until the state production is brought into line with demand it might not be so bad.

ON THE OTHER HAND

Still there have been a couple of years when Labor Day did not mark a sudden drop in demand, consumption continuing unusually strong through September and even well into October. Here's hoping!

UPPERMOST

It is significant that the chief topic on the National Petroleum Association program is the relation of Washington and business.

MISPLACED OPTIMISM

Less optimism and more common sense would be useful in some cases. In the spring of 1937, and again in 1938, there were cheery predictions that record-smashing consumption would melt the huge stocks of gasoline. But it didn't.

REMARKABLE LEASE

Carter Oil Co. Killingsworth lease of 120 acres, Section 23-9n-6e, Seminole City pool, Seminole County, Oklahoma, had produced up to July 1 a total of 11,079,000 bbls., an average of 92,325 bbls. per acre and of 852,230 bbls. per well. The first well started in September, 1926, completed for 3,520 bbls. The pay is Wilcox and the 13 wells drilled averaged 4,116 feet in depth. There are six wells still producing, the seven others having exhausted their oil.

FOR TROUBLED WATERS

French imports of petroleum from the United States increased more than 50 per cent during the first six months of this year.

AN EXAMPLE

The oil industry might take heart from the attitude of the automotive industry which felt the decline in demand very much more than the gasoline market, yet is going ahead confidently in expectation of general improvement.

REVISING RULES

The Department of Justice now seems inclined to blame antitrust failures on judicial rulings but it wants the law changed, not the judges.

PAYNE PRODUCER

The Ramsey pool, in Payne County, Oklahoma, waited a long time for some one to discover its 13,428-barrel possibilities, confirmed in its eleventh, and second largest, producer.

NEW PEAK

New producing areas in four Kansas counties and a new potential peak of 3,603,253 barrels for the state increases optimism there.

SETBACKS

The first dry hole in the Schuler field and salt water troubles in the Village field of Columbia County, were Arkansas disappointments during the week.

BUTANE USED FOR FUEL

Deep test on sharp ridge 30 miles north of Santa Maria, Calif.

Texas Conservation To Continue, Says Commissioner-Elect

G. A. SADLER

HOUSTON, Tex., Aug. 29.—The defeat of C. V. Terrell, chairman, and veteran member of the Texas Railroad Commission, for the democratic nomination for reelection to membership in that body by G. A. (Jerry) Sadler of Longview, Tex., in the run-off election last Saturday is intensifying speculation among operators over possibilities of change in regulatory policies of the commission affecting oil and gas production.

Mr. Sadler's election is assured as the democratic nomination in Texas is tantamount to election. He will take office with the expiration of Mr. Terrell's term January 2.

In the present lineup of the Railroad Commission, Mr. Terrell has been closely aligned with Col. E. O. Thompson, the two constituting a majority over Lon Smith, the third member, who has openly opposed some of the policies and regulations which have been promulgated by the commission. It was freely rumored prior to election that Mr. Sadler would be in sympathy with Mr. Smith and that his membership in the commission would shift the majority to the side of the latter, leaving Colonel Thompson as the minority member, which might result in a general revision of the present proration setup.

Discounting such assumptions, however, Mr. Sadler, in a statement to the press Monday, proclaimed his independence and desire to follow a middle course. He gave assurance that he would vote with Colonel Thompson when he thought him right and with Mr. Smith when he thought the latter right. He added:

"I believe strictly in a program of conservation and construction — not destruction."

Mr. Sadler set at rest reports that his election to the commission would result in any opening of the East Texas field or loosening of necessary proration restrictions. He stated that he expected to be as strict a conservationist as anyone else, and that he had no intention of turning anything loose. It had been claimed that he considered the present restrictions in that field unfair, and being a resident of the district and an independent operator in that field, he would seek to obtain higher allowables there. Much support to his campaign has been given by a group of East Texas independent operators who have opposed present restrictions.

Included in Mr. Sadler's platform for election were such proposals as discontinuance of the practice of granting special allowables to certain companies, fields or sections of the state to produce extra oil for particular needs, and elimination of the granting of numerous drilling permits in exception to Rule 37, the state spacing law. He also proclaimed opposition to imports of foreign oil and as he alleged a one-man dictatorship of the state oil industry.

That discriminations if they exist, against any field or section of the state, will be eliminated and that operators will be treated alike and fairly in the production of oil is one of the commitments of Mr. Sadler. By elimination of present claimed excessive drilling, he said the need for Sunday and Saturday shutdowns will be removed.

Mr. Sadler is 30 years old. He was born in Anderson County, East Texas, and worked in a Gulf Coast refinery and on pipe lines and drilling rigs. He moved to the East Texas field seven years ago and in 1931 was made manager of two independent East Texas refineries. He studied law at night and was admitted to the bar and joined Fred R. Erisman of Longview as legal partner two years ago. He has investments in East Texas oil properties. This will be his first public office.

In a personal interview he pledged himself on five major points as follows:

First, no discrimination among fields or districts on oil allowables.

Second, strict conservation.

Third, no changes in mind for East Texas allowable situation, at least not committing himself yet.

Fourth, he does not advocate special allowables. in fact, is much opposed to issuing them after statewide orders.

Fifth, harmony with other commission members, but adherence to his beliefs in what should be done.

Mr. Sadler claims that one of the refineries with which he was associated was the first to ship under federal tenders. Which claim is disputed by others. While in practice in Longview he fought for reduction of gas rates.

Establishment of other federal oil tender boards, like that in East Texas, is favored by Mr. Sadler who wants a board created in southern Louisiana. He does not favor federal control of the industry in any form but believes it necessary to have more federal tender boards to enforce the Connally Act.

Colonel Thompson in a statement Tuesday said: "Sadler's election means nothing in the way of any change in policy. There is absolutely nothing to worry about."

Commissioner Smith meanwhile made the specific statement that "no act of the Railroad Commission is going to jeopardize the price structure."

Governor Allred Monday denied a rumor that he would call a special session of the legislature to transfer the regulatory powers over oil and gas to a conservation commission.

Sadler Stands

For strict oil conservation « » Against discrimination in allowables between districts « » Opposed to special allowables for particular needs « » Favors discontinuance of drilling permits as exceptions to Rule No. 37 « » Has no changes in mind at present for East Texas allowable situation

Silo for storing 3,000,000 pounds of carbon black, 150 feet high, 40 feet in diameter, at plant in North Ward pool, Texas

Texas Panhandle Carbon Black

By PAUL REED

Large scale carbon black production operations are being concentrated more and more in Texas, particularly in the Panhandle which holds a foremost position in the industry since this area alone manufactures nearly 80 per cent of the world's output of carbon black. During the past year gains in production were registered by all the producing states. Kansas entered the field for the first time with a plant in Grant County. There were 57 carbon black plants operated altogether in 1937, compared with 54 in 1936. A loss of three plants in Louisiana was more than offset by a gain of 5 plants in Texas and the Kansas plant. Ward and Winkler counties in Texas became factors in production for the first time, while Moore County in the Texas Panhandle materially increased its output with four new plants.

While the domestic carbon black business, which supplies material for manufacturers of tires, ink, paint and lacquer, has been less this year, export sales during the first half of 1938 compare favorably with previous years. Although the rise in export business in carbon black during the past year and a half has been a bright spot in the situation, it is believed to be based on military activities of uncertain duration. There were 341,085,000,000 feet of natural gas burned at carbon black plants in 1937 compared with 283,421,000,000 feet in 1936 or about 14 per cent of the estimated gas consumption of the United States compared with 13 per cent in 1936. The average yield of carbon black per thousand feet of natural gas rose from 1.45 pounds in 1936 to 1.50 pounds in 1937, the largest gain ever recorded in a single year. Sales of carbon black by the producers rose from 467,736,000 pounds in 1936 to 489,615,000 pounds in 1937. Exports increased from 154,718,000 pounds in 1936 to 184,030,000 pounds in 1937, hence domestic sales decreased from 313,018,000 pounds in 1936 to 305,585,000 pounds in 1937. About a third of the production is exported; foreign customers in order of their importance are United Kingdom, France and Germany.

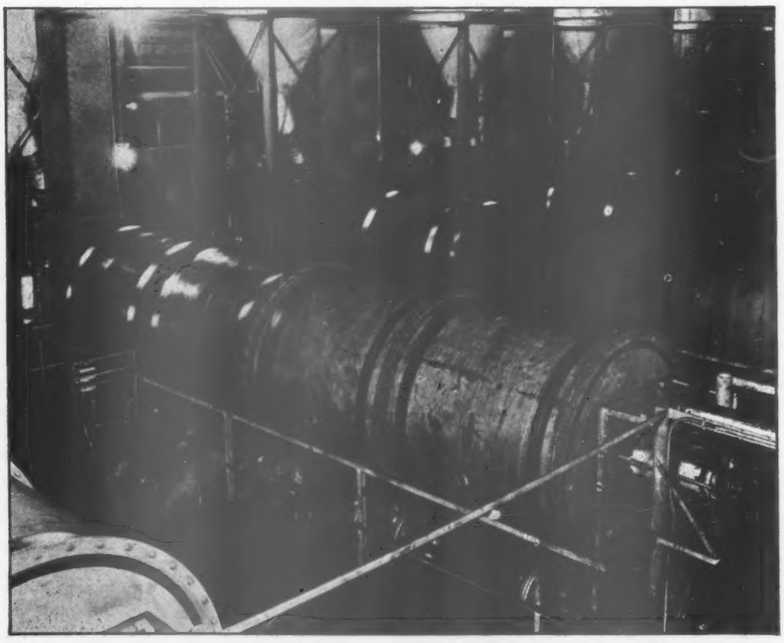
Of the amount produced last year, 86 per cent was produced by the channel process; however, other processes increased their share in the business, one or two of which recover up to 10 pounds per thousand feet of gas burned. Although channel process plants are familiar to oil and gas men and others who travel across areas like the Texas Panhandle where carbon black is made, the nature of the process is not generally understood. The channel process plant, seen from a distance, looks like a small town or a freight yard, on fire and going up in smoke, although from a position outside the plant no evidence of fire is to be seen.

The channel process is a method of burning natural gas under long steel plates called channels against which flames from the burners impinge, depositing the carbon black. The plates or channels move slowly back and forth through the length of the hot house, at a rate that is so slow it is almost imperceptible; the stroke of this reciprocating movement is only a few feet. At intervals there are stationary scrapers which remove the carbon from the channels so that it drops through hoppers to screw conveyors in pipe lines near the floor which transport the black to the packing house where foreign matter is eliminated and the flakes are broken up. In the packing house are facilities for storing, sampling, shipping in bulk, and packaging to various degrees to meet the different needs of the trade. Here, also, is the equipment for making dustless carbon at the plants prepared to produce carbon black in this form which has been steadily gaining in importance in recent years.

By taking, as an example, the Bowers plant of the Texas Elf Carbon Co., it is possible to simplify a description of the most conspicuous features of channel plant operation. This plant, located near Pampa, Texas, is one of the largest plants in the industry; it is owned by a company which is a subsidiary of Cabot Co. and Phillips Petroleum Corp. and is operated under Cabot management. Gas enters the plant from residue lines from gasoline plants at pressures between 20 and 50 pounds; pressure is reduced by regulators to one pound or less. The most distinctive feature of carbon making is the burner, a small device, which may be regarded as the real business end of the plant. The burner is a ceramic product made of imported lava in a number of shapes and sizes. The type of burner used at the Bowers plant for making carbon for tire manufacturers is one-fourth inch in diameter at the base and five-eighths inch high; the burner is tapped into a 1¼-inch gas line; in one hot house there are 30,000 burners.

Factors governing the grade of carbon produced in the hot houses are: the distance from the burner to the channel above; space from center to center between burner tips; quantity of gas passed through the burner tips; and the quantity of air admitted to the building. Since the making of carbon black is conducted in an atmosphere of insufficient oxygen for complete combustion, the control of "drafting" is important; changes in drafting must be made whenever there are changes in temperature and shifts of wind. High winds materially reduce the amount of carbon black which can be produced. The presence of air or mineral seal oil in the gas has a bad effect on the quality of the product and causes considerable trouble. The average amount of carbon black produced from burning average gases, where the channel process is used, is between 1.2 and 1.6 pounds per thousand feet.

Differences in the characteristics of gas coming from different gas fields do not present difficulties to the carbon black manufacturer. With the proper adjustments in the plant, good carbon black can be made in all grades from any



Newest type rollers and crushers used in carbon black plant, sour gas area of the Panhandle field

Center of Industry

Airplane view of channel-process plant in Texas Panhandle

good natural gas. A distinctly notable development in carbon black manufacture is the making of dustless carbon which commenced five years ago. An increasing amount of carbon black is being bought in this form because of the greater convenience which it has for customers. Seen through a microscope, dustless carbon resembles shiny buckshot. In making dustless carbon, the ordinary angular particles of carbon black are consolidated into this spheroid dustless form by a procedure which consists of a very complicated mixing process. Since dustless carbon is free flowing it can be readily shipped in bulk, loaded and unloaded without manual handling.

A large amount of dustless carbon is shipped in specially made, covered, hopper bottomed cars. Such a car is loaded through a pipe at the carbon black plant and on arrival at the factory of a customer, such as a tire manufacturer, the car is spotted over a conveyor opening; the conveyor takes the black to an elevator system, on the outside wall of the building, which delivers the black to a tank on the roof, that looks like a water tank, from which it flows by gravity to the mixing machines. Dustless carbon makes it possible to very much reduce the dirt in a tire plant. Bulk shipments can be shipped in larger carloads. In shipping packaged black, 50,000 pounds can be loaded in a box car; bulk shipments can be made in quantities of 70,000 pounds per car. Dustless carbon black has been developed by the industry to give an improved product to the trade.

The making of carbon black consists in burning gas to produce a black of a certain quality which is particularly suited to the needs of the kind of manufacturer for whom it is intended. It is not just a matter of burning gas to get a soot.

A misunderstanding of this point has led casual observers to get the impression that the making of carbon black is conducted in a wasteful manner. In the course of evolving the present methods, the most economical procedures known have been adopted for producing the various qualities of carbon black which are suitable for the technical requirements of the customers. If carbon black manufacturers using the channel process could make money by taking black out of the smoke which goes up from their plants, they would have done this before now.

Because of the grimy atmosphere about the plants, questions arise as to the healthiness of the working conditions. The answer is that the work is not unhealthy. Contrary to a common supposition, men working about the plants do not wear gas masks. Carbon black is nontoxic and there are no occupational diseases in this work. In fact, there are fewer skin diseases than there are among workmen engaged in other industries. This may be due to their getting thoroughly cleaned up every day at the end of the tour.

While dealing with impressions which the public has of the industry, it may be appropriate to mention that since the days of its origin in Pennsylvania and West Virginia the industry has been migrating westward from areas where demand for natural gas as fuel required available supplies, to areas where a gas supply of abundance could be had which exists as a drug on the market.

In this connection, emphasis may be put on the point that carbon black is a vital need for important modern industries. Domestic sales for carbon black were divided as follows last year: To rubber companies, 269,807,000 pounds (88 per cent); to ink companies, 18,116,000 pounds (6 per cent); to paint companies 6,159,000 pounds (2 per cen); for miscellaneous purposes, 11,503,000 pounds (4 per cent). In this period these data indicate losses in the rubber and paint trades; and gains for ink and miscellaneous uses. The value of the carbon black, at the plants where it was produced, was $17,389,000.

As the purchaser of the major part of the output of the industry, tire manufacturing takes a foremost position among the users of carbon black. Carbon black has done more to increase the mileage of modern tires than any other material used in their manufacture. The addition of carbon black to rubber acts as a reinforcement which may be compared to the effect that steel has when used in a concrete structure. Carbon black in a tire-tread adds to its tensile strength and resiliency, toughens the rubber, increases its resistance to abrasion, minimizes punctures and blowouts, thereby giving greater mileage. In the making of tires 40 to 50 parts of carbon black are used with 100 parts of rubber. The use of carbon black in rubber compositions is not restricted to automobile tires; it is an important ingredient in the making of such articles as hose, surgical and mechanical rubber, floor compositions, rubber heels, and other products in which resistance to wear must be provided for.

The carbon black industry was originally developed to supply the printing trades at a time when rapid expansion brought new demands as to the quantity, quality, and cost of ink. The modern multiple press requires an ink which will flow freely, cover every hair line of the type or half-tone cut and make an instantaneous jet-black impression. Carbon black is essential in the making of such an ink. Among other articles or products, in the manufacture of which carbon black enters, are stove polish, paints, varnishes, enamels, cement colors, crayons, black and gray papers, book binder's board and artificial leather.

Carbon black plant in the Texas Panhandle

This year, contrary to what is customary, sales of black, during winter and early spring months, have continually decreased. Usually the peak demand comes in February, March and April when the tire companies make their heaviest purchases to prepare for summer business. However, carbon black manufacturers, as a rule, operate at a fairly uniform rate throughout the year, storing their surplus product when orders fall off. Plants deteriorate rapidly through rusting when shut down. Most of the output going to tire companies is sold on a contract basis.

Hope Note May Yet Save Expropriated Properties

By H. STANLEY NORMAN

NEW YORK, Aug. 30.—Determined stand of the United States in opposition to "bald confiscation," reiterated in Secretary of State Cordell Hull's second note to Mexico on expropriation, revived hopes that $450,000,000 worth of British and American oil properties may yet be salvaged.

Petroleum has entered the exchange of diplomatic notes between the United States and Mexico only by inference, Secretary Hull reserving his demands for the present to $10,132,388 worth of American-owned agrarian lands seized by the Mexican Government during the past 11 years. There has never been any doubt, however, that seizure of the oil properties brought the expropriation issue between the two nations to a head. It is equally well recognized that a basis for settlement of the American claims arising from expropriation would apply similarly to agrarian and mineral lands.

Petroleum constitutes the reason Mexico is apparently set on a course of paying if, as and when she pleases for the agrarian properties and why the United States is equally determined to establish a precedent upon which it may base claims for the seized oil properties. It is obvious that neither nation is seriously concerned over the comparatively meager value represented by the seized farm and ranch lands. If Mexico's worries were confined to the $10,132,388 worth of American-owned farm lands confiscated over the past decade, it is probable a speedy settlement would be reached in preference to straining relations with the United States.

Another Proposal

Having noted Mexico's refusal in her reply to his first note to submit the land seizures to arbitration, Secretary Hull advanced another proposal in his note made public August 25. He suggested that if Mexico remained adamant against straightout arbitration, each government should appoint a commissioner to determine between themselves the appropriate compensation for individual seizures. Any differences would be decided by a sole arbitrator selected by the permanent commission at Washington as provided in the Gondra treaty of 1923. Further, it would be provided that Mexico should make monthly payments in escrow while agreement was being sought. In any event, Secretary Hull demanded that Mexico should make no more seizures unless accompanied by payment.

Mexico, Mr. Hull charged in his note, is supporting a contention which would "replace the rule of just compensation by the rule of confiscation." Its position, he said, is one which would mean "the immediate breakdown of confidence and trust between nations."

Referring to the Mexican note of August 3 which was a reply to the first Hull message on expropriation under date of July 21, Mr. Hull said Mexico's arguments against immediate compensation for seized properties were received "not only with surprise but with profound regret."

"Reduced to its essential terms," he wrote, "the contention asserted by the Mexican Government as set forth in its reply and as evidenced by its practices in recent years, is plainly this: That any government may, on the ground that its municipal legislation so permits, or on the plea that its financial situation makes prompt and adequate compensation onerous or impossible, seize properties owned by foreigners within its jurisdiction, utilize them for whatever purpose it sees fit and refrain from providing effective payment therefor, either at the time of seizure or at any assured time in the future.

"I do not hesitate to maintain that this is the first occasion in the history of the Western Hemisphere that such a theory has been seriously advanced. In the opinion of my Government, the doctrine so proposed runs counter to the basic precepts of international law and of the law of every American republic, as well as to every principle of right and justice upon which the institutions of the American republics are founded. It seems to the Government of the United States a contention alien to the history, the spirit and the ideals of democracy as practiced throughout the independent life of all the nations of this continent."

Losing Patience

That the United States is losing patience with Mexico was evidenced in another part of the note in which Secretary Hull said he found it "necessary to state emphatically that, after many years of patient endeavor on the part of this Government to obtain just satisfaction for these claims without success, the Government of the United States has regretfully reached the conclusion that it is impossible to adjust them by diplomacy."

The reaffirmed attitude of the United States on the question of American property seizures in Mexico materially increased the interest in recent petroleum developments, particularly that involving importation of substantial amounts of Mexican oil by Eastern States Petroleum Co. Purchase of "substantial quantities" of Mexican oil for importation into this country by Eastern States was confirmed by its president the preceding week. Upon discharge of the first shipment at Houston, Tex., C. V. Terrell, chairman of the Texas Railroad Commission, canceled a tender covering 100,000 bbls. of oil. Chairman Terrell admitted inability of the Texas authorities to do anything to halt the importation, saying it was a matter for federal authorities.

"We are already having our own difficulties. A cut in production of crude oil must come because of crude and gasoline are not being reduced as fast as they should be at this season of the year. Reports of a general cut in the crude oil structure are beside the mark. Two (now three) independents have cut the price of East Texas crude but it is not likely that majors will follow suit.

"The shipment of oil into Texas from other nations should be stopped but the Railroad Commission has no power to regulate such shipments. It is a matter for federal regulation and we think something should be done about it."

At Austin, Tex., Ernest O. Thompson, chairman of the Interstate Oil Compact Commission, said that arrival of the first cargo of expropriated Mexican oil at Texas ports "constitutes an added menace to the stability of the weakening market for Texas oil." He charged that the first cargo imported tested 49.3 degrees gravity and "appears to be crude tops and not crude oil—a refined product that should pay the excise tax of 2½ cents per gallon instead of one-half cent per gallon that applies to crude oil."

Colonel Thompson's statement on the character of the imported Mexican oil did not agree with a statement issued by Eastern States Petroleum Co., which said in part:

"The cargo consisted of approximately 40,000 bbls. of Poza Rica crude oil of about 29 degrees gravity. The crude oil in question was produced from wells of Petromex, the Mexican Government's own producing company in the Poza Rica field. No American oil company has ever had any production in this field.

"The Eastern States Petroleum Co., while continuing to operate largely on Texas crude, is importing a substantial quantity of the Poza Rica production. The oil is imported under regulations of the United States customs service covering such materials. The duty is paid on the oil imported and importing companies may make application for refund of duty on this oil when it is exported."

Ownership of Oil

Since the Mexican Government now has access to most of the important producing properties in the country it is possible and probable that oil imported by Eastern States came entirely from government wells, thus leaving the expropriated leases to supply the country's internal requirements of about 43,000 bbls. per day. The Mexican Government companies obtained from their own wells and from royalties accruing to the government about 18,000 bbls. of oil daily prior to expropriation.

Indications are that Holland, while freeing certain shipments of Mexican oil which had been tied up in Amsterdam through a court action brought by Mexican Eagle Oil Co., Royal Dutch-Shell subsidiary ousted from Mexico, will not long tolerate importation and distribution of Mexican petroleum. The Holland attitude was expressed in an exchange of questions and answers between Mr. Schouten, member of the second chamber, and the Ministry of Foreign Affairs and Ministry of Economic Affairs. Mr. Schouten's questions, numbered (1) and (2) followed by the official replies, follow:

"'1. Is the government able to state whether there is any truth in the rumors to the effect that Mexican oil and products obtained therefrom are being brought to Holland by the Netherlands Shipping Co. and that efforts are being made to find a market for them in Holland.'

"'2. If these rumors are true is the government in view of the dispute commonly known to be pending in Mexico between the Mexican Government and the petroleum companies established there able to pass an opinion in the transport of these products to Holland and their sale here and to state whether it has taken or intends to take any action in the matter.'

"Replying to written questions of Mr. Schouten, a member of the second chamber, the Minister of Foreign Affairs, stated on his own behalf and on that of the minister of economic affairs that rumors are correct that efforts are being made to find a market in Holland for Mexican oil and products obtained therefrom and the Mexican oil and products obtained therefrom are being brought to Holland by the Netherlands Shipping Co.

"In the circumstances the government considered as undesirable the sale in Holland of this oil and products obtained therefrom and the transport thereof to Holland and therefore regards such sale and transport with disfavor.

"It is examining the question as to how far facts mentioned call for further action."

Bloomer-Habiger-Stumps Area Developing Into Major Field

By DAL DALRYMPLE

Recent extensions and discoveries in the three-county-corner sector of Barton, Ellsworth and Rice counties in Kansas have been of sufficient significance and have come with such frequency as to establish the area as a major oil field. It is a district with at least five undefined pools, all of which eventually may be consolidated into one big producing area with two or more pay zones.

Largest of the pools, both in proven area and potential production, is the Bloomer field, opened in eastern Barton County, subsequently extended into southwestern Ellsworth County and apparently due for an early extension into northwestern Rice County. About one mile southeast of nearest Bloomer production is the prolific Habiger area, with the Stumps pool less than a mile further east, both being Rice County discoveries that have been extended into Ellsworth County.

The Stumps pool was discovered in May, 1935, at Allison and others No. 1 Stumps, NW NW SW Section 4-18-10w, producing 43-gravity oil from Arbuckle lime at around 3,940 feet.

The Bloomer pool was opened in February, 1936, at Carlson, Spencer & Yarnell No. 1 Bloomer, NE NE NW Section 36-17-11w, which had initial potential of 417 bbls. of 43-gravity oil from Arbuckle lime at 3,257-81 feet. Potentials of other wells in the pool, from both Arbuckle and Lansing formations, generally ranged from 900 to 3,000 bbls.

Lansing Lime Sector

Nearly midway between Bloomer and Stumps is the Habiger pool, opened in September, 1937. It has proven to be one of the more prolific Lansing-Kansas City lime pools to be developed on the Central Kansas uplift. High potentials, consistent production and comparatively shallow depths have made it an outstanding Kansas sector. Bridgeport Machine Co. No. 1 Habiger, NW cor. Section 5-18-10w, the discovery well, found top of the lime at 2,924 feet, pay at 3,001 feet, was bottomed at 3,016 feet and made initial potential of 4,027 bbls. Initial potential of some of the later wells ranged above 7,000 bbls. daily, big producers being on both sides of the Ellsworth-Rice County line. The August report of the Kansas Corporation Commission gave the following statistics for the three pools:

Pool	No. of Wells	Potential	Net Allowable
Bloomer, Arbuckle	77	113,459	64,903
Bloomer, Lansing	3	8,224	2,959
Habiger, Arbuckle	3	7,825	2,940
Habiger, Lansing	20	70,930	26,353
Stumps, Arbuckle	14	5,662	11,753
Total	117	206,100	108,908

Field developments of the last four months have greatly extended productive possibilities of the three-county district.

Early in May, 1938, the North Stumps pool was opened by Ralph Wixson and associates at No. 1 Petermann, SW cor. Section 28-17-10w, Ellsworth County, one mile north of nearest production in the Stumps pool. It made initial production of 778 bbls. of oil at total depth of 3,306 feet in Arbuckle lime.

The Heinz pool was opened late in July at C. L. Carlock and associates No. 1 Heinz, NW NW SE Section 8-18-10w, one and one-fourth miles south of the Stumps and Habiger sectors. Lansing lime was found at 2,925 feet, total depth 3,019 feet, and it made initial potential of 1,118 bbls. of high-gravity oil. Location was on an 80-acre farmout from Transwestern Oil Co. and others.

A Midway Producer

A connecting link between Heinz and Stumps areas recently was forged with completions of Atlantic Refining Co. No. 1 Habiger, NE cor. Section 8-18-10w, midway between the two pools. It made potential of 570 bbls. of oil daily from Arbuckle lime at 3,271 feet, total depth.

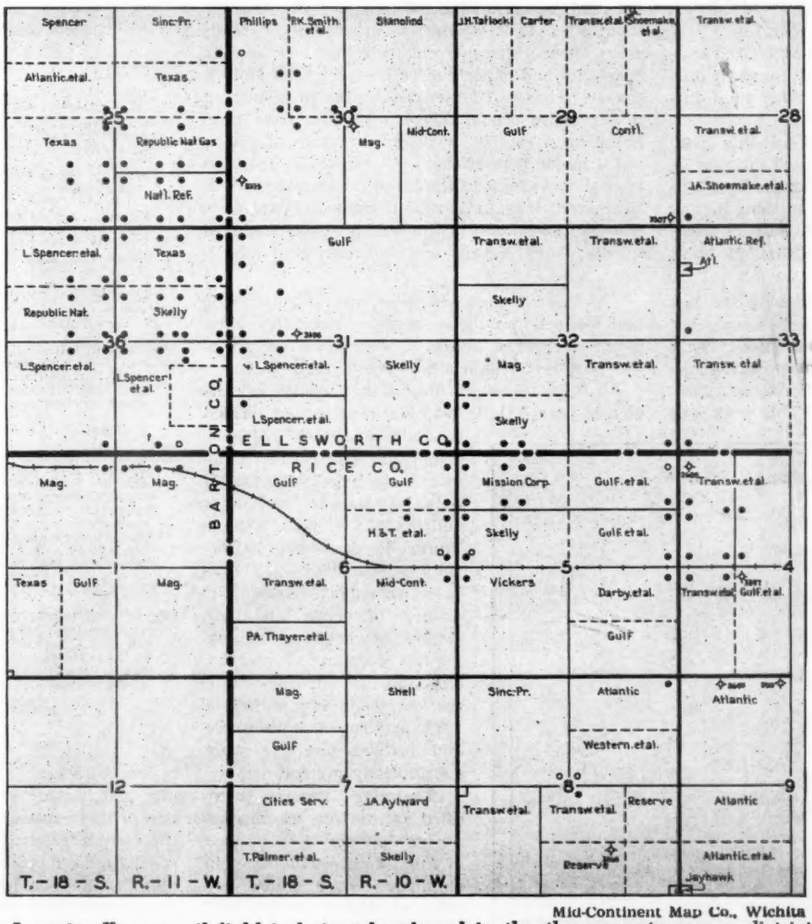
Productive limits of the Bloomer pool were extended one-fourth mile northward in Barton County early in August at Sinclair Prairie Oil Co. No. 1 McLean, SE NE NE Section 25-17-11w. Arbuckle lime was topped at 3,296 feet, total depth 3,304 feet, and it was completed for potential of 942 bbls. of oil.

The extreme south end of the Bloomer pool was revived the past month at Magnolia Petroleum Co. No. 3 Mueller, NW NE NE Section 1-18-11w. It had initial potential of 2,172 bbls. from Arbuckle lime at 3,243 feet, total depth 3,247 feet. Two offsets have been started, one being the Magnolia's No. 4 Mueller, NE cor. Section 1, adjoining the Rice County line and diagonally offsetting the southwest corner of Ellsworth County. If it is completed as a producer, offsets will be required in both Rice and Ellsworth counties. Extension of the Bloomer field into Rice County, then, appears likely, making it a three-county field and bringing it nearer consolidation with the Habiger area.

The Newest Extension

The next extension in the district appears due at Atlantic Refining Co. No. 1 Dougherty, SW SW NW Section 33-17-10w, Ellsworth County, midway between the Stumps and North Stumps pools. It was in Arbuckle lime at 3,249-53 feet, total depth, where good saturation was found. Seven-inch casing was set at 3,249 feet and at this writing operators were rigging up standard tools to complete.

Future developments are expected to consolidate the five proven pools into one large field.



Mid-Continent Map Co., Wichita

A major Kansas oil field is being developed in the three-county-corner district of Barton, Ellsworth and Rice counties

GULF PORT SHIPMENTS EXPECTED TO INCREASE

By Neil Williams

HOUSTON, Tex., Aug. 29.—Shipments of crude oil and refined products out of Gulf Coast ports are being maintained at a fairly high rate despite the curtailment of production in Texas and other parts of the Mid-Continent this year. Total shipments the first six months were only 5,000,000 bbls. under the previous year.

An increase in export movement is anticipated which, with the normal increases in shipments during the last half of a year, may offset the decrease in the first half and approach the records of the last half of 1937.

During the latter period 261,257,834 bbls. of crude oil and refined products were cleared through Gulf Coast terminals, an average of 45,542,739 bbls. a month. The total for the first half of 1938 was 231,433,836 bbls., an average of 38,572,306 bbls. Shipments the first half of 1937 were 236,704,057 bbls., a monthly average of 39,450,676 bbls.

Refiners and marketers of export oil have reported more bona fide inquiries for material during the past several weeks than at any time during the past year.

Exports during the first half of this year totalled 48,033,631 bbls. This exceeded the volume moved during the preceding six months by 1,349,173 bbls which was greater by far than in any similar period. During the first half of 1937, export shipments totalled only 32,344,374 bbls., 15,689,257 bbls. under this year.

Export shipments by months during the last half of 1937 reached peaks not equalled since but this year there has been an almost steady gain from the January low. The all-time monthly record for exports was reached in August, 1937, when 9,274,557 bbls. was cleared. This peak was nearly equalled the following month when exports totalled 9,183,256 bbls., but following that exports declined, reaching a low of 6,246,283 bbls. in January this year.

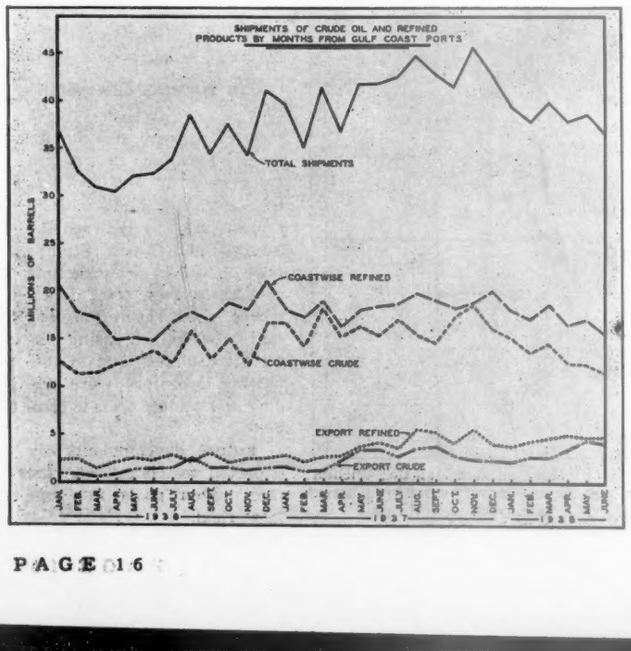
A peak of 5,661,319 bbls. was reached in exports of refined oil during November, 1937, but a decrease in exports of crude oil that month brought down the total. Increases in exported crude have accounted for the greatest part of the gain in total exports. Exports have been running about twice the volume reported during the first few months of 1937. It was not until the middle of last year that these shipments began to assume the volume now being moved.

Only the Mississippi River terminals reported an increase for the first six months of this year. Those terminals moved a total of 16,242,892 bbls. compared with 15,715,699 bbls. for the preceding six months, and 12,983,468 bbls. for the first six months of 1937. Coastwise movement of crude from these terminals declined but increases in coastwise and exports of refined products and exports of crude oil offset the decline in movement of coastwise crude. Those terminals have been handling a rapidly increasing volume of crude, but a major part of these shipments are in intracoastal movement to the large refining centers at Beaumont, Port Arthur, Houston and Texas City. Only shipments out of the Gulf ports are included in the above figures and accompanying tabulations.

Substantial increases in exports of both crude and refined products, and in coastwise shipments of refined products, were reported out of the Corpus Christi-Harbor Island terminals.

Of the total shipments for the first six months of this year, 131,618,095 bbls. represented refined products, and 99,815,741 bbls. crude oil. The refined shipments included 103,433,977 bbls. in coastwise movement and 28,184,118 bbls. export. The crude consisted of 79,966,228 bbls. coastwise and 19,849,513 bbls. export. Except for exports of crude, all these shipments were less than during the preceding six months, although in comparison with the corresponding period of 1937, exports of both crude and refined products were substantially greater.

Tentative reports compiled on tanker movements during July and the first part of August reflect increases in shipments over June and other months of the first half. These are shown not only in export but in coastwise shipments. A noticeable increase in shipments of diesel oils, and heating oils is reflected. A large quantity of these oils is included in shipments out of the Corpus Christi district, where refiners have specialized on production of such oils. For these oils Canada has been a major outlet, although Scandinavian countries have taken a sizeable volume, not to mention the domestic markets served out of the Atlantic Seaboard.



Gulf Port Ship

*Districts and terminals	
HOUSTON-GALVESTON DISTRICT—	
American Petroleum Co.: Norsworthy	
Atlantic Pipe Line Co.: Texas City	
Independent Terminal Co.: Texas City	
Humble Oil & Refining Co.:	
Baytown	
Texas City	
Republic Oil & Refining Co.: Texas City	
Shell Petroleum Corp.: Houston	
Sinclair Refining Co.: Houston	
Texas Co.: Houston	
Miscellaneous:	
Texas City	
Houston	
Total	
MISSISSIPPI RIVER DISTRICT—	
Pan American Petroleum Corp.: Destrahan	
Shell Petroleum Corp.: Norco	
Standard Oil Co. of Louisiana: Baton Rouge	
Texas Co.: Amesville	
Miscellaneous	
Total	
SABINE DISTRICT—	
Atlantic Pipe Line Co.: Atreco	
Atlantic Refining Co.: Atreco	
Burton Terminal: Lake Charles	
Continental Oil Co.: West Lake	
Gulf Oil Corp.: Port Arthur	
Magnolia Petroleum Co.:	
Beaumont	
Lockport	
Pure Oil Co.: Smith's Bluff	
Shell Petroleum Corp.: Haymark	
Stanolind Crude Oil Purchasing Co.: Beaumont	
Sun Oil Co.: Beaumont	
Texas Co.: Port Arthur	
Union Sulphur Co.: Rose Bluff	
Total	
CORPUS CHRISTI DISTRICT—	
Atlantic Pipe Line Co.: Harbor Island	
General American: Corpus Christi	
Humble Oil & Refining Co.:	
Harbor Island	
Ingleside	
Texas Pipe Line Co.: Corpus Christi	
Miscellaneous	
Total	
RIO GRANDE DISTRICT—	
Valley Pipe Line Co.: Port Isabel	

*Shipments represent totals for terminals rather than

Districts and terminals	
HOUSTON-GALVESTON DISTRICT—	
American Petroleum Co.: Norsworthy	
Atlantic Pipe Line Co.: Texas City	
Independent Terminal Co.: Texas City	
Humble Oil & Refining Co.:	
Baytown	
Texas City	
Republic Oil & Refining Co.: Texas City	
Shell Petroleum Corp.: Houston	
Sinclair Refining Co.: Houston	
Texas Co.: Houston	
Miscellaneous:	
Texas City	
Houston	
Total	
MISSISSIPPI RIVER DISTRICT—	
Pan American Petroleum Corp.: Destrahan	
Shell Petroleum Corp.: Norco	
Standard Oil Co. of Louisiana: Baton Rouge	
Miscellaneous	
Total	
SABINE DISTRICT—	
Atlantic Pipe Line Co.: Atreco	
Atlantic Refining Co.: Atreco	
Gulf Oil Corp.: Port Arthur	
†Magnolia Petroleum Co.: Beaumont	
Shell Petroleum Co.: Haymark	
Stanolind Crude Oil Purchasing Co.: Beaumont	
†Sun Oil Co.: Beaumont	
Texas Co.: Port Arthur	
Total	
CORPUS CHRISTI DISTRICT—	
Atlantic Pipe Line Co.: Harbor Island	
General American: Corpus Christi	
Humble Oil & Refining Co.: Harbor Island	
Texas Pipe Line Co.: Corpus Christi	
Miscellaneous	
Total	

ments of Crude Oil and Refined Products First Half of 1938

†COASTWISE SHIPMENTS

January		February		March		April		May		June		Total	
Crude	Refined	Crude	Refined	Crude	Refined	Crude	Refined	Crude	Refined	Crude	Refined	Crude	Refined
153,281	.....	158,554	.....	158,823	.....	234,287	.....	150,733	.....	154,867	.....	1,010,545	.....
248,630	.....	197,285	2,985	200,228	2,377	217,345	2,384	249,780	4,766	274,639	2,377	1,387,907	14,889
.....	120,000	.....	62,000	.....	45,000	.....	.....	.....	133,000	.....	123,500	.....	483,500
31,652	3,325,963	68,987	3,261,507	120,507	3,756,959	.....	2,794,466	31,621	2,335,432	.....	2,444,540	252,767	17,918,867
546,961	.....	228,731	.....	309,444	.....	197,817	.....	212,711	.....	98,757	.....	1,594,421	.....
.....	258,300	.....	167,500	.....	244,800	.....	162,000	.....	267,000	.....	206,000	.....	1,305,600
.....	1,383,915	.....	1,829,690	.....	1,901,153	.....	1,950,282	.....	1,705,864	80,980	1,482,033	80,980	10,252,937
1,235,405	.....	1,109,259	.....	1,492,870	.....	1,115,376	.....	1,083,801	.....	1,481,254	.....	7,517,965	.....
610,717	.....	539,386	.....	658,619	.....	627,936	.....	271,922	.....	657,608	.....	3,366,188	.....
.....	1,656,110	101,138	1,607,461	250,959	1,652,893	.....	1,847,464	156,025	1,749,947	.....	2,022,547	508,122	10,536,422
173,469	.....	89,650	407,353	108,845	17,993	105,636	.....	90,360	.....	175,207	.....	743,167	425,346
3,000,115	6,744,288	2,492,990	7,338,496	3,300,295	7,621,175	2,498,397	6,756,596	2,246,953	6,196,009	2,923,312	6,280,997	16,462,062	40,937,561
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	70,900	64,900	70,900	64,900
.....	335,763	.....	283,658	.....	225,323	.....	93,506	.....	122,252	.....	81,181	.....	1,141,683
579,317	1,175,752	578,732	1,300,570	767,083	1,430,152	465,553	905,904	322,823	641,305	33,831	590,268	2,767,339	6,043,951
155,659	.....	172,125	.....	230,101	.....	155,388	.....	157,360	.....	132,042	.....	1,002,675	.....
315,615	.....	296,819	.....	201,475	.....	135,200	.....	102,112	.....	140,445	.....	1,191,666	.....
1,050,591	1,511,515	1,047,676	1,584,228	1,198,659	1,655,475	756,141	999,410	582,295	763,557	397,218	736,349	5,032,580	7,250,534
1,186,901	.....	1,513,642	.....	1,354,883	.....	1,425,817	.....	1,196,758	.....	1,336,629	.....	8,014,630	.....
.....	235,974	.....	125,861	.....	254,304	.....	283,241	.....	187,630	.....	176,918	.....	1,263,928
178,944	.....	317,969	.....	237,299	.....	160,878	.....	320,002	.....	79,471	.....	1,294,563	.....
313,426	.....	313,291	.....	240,775	.....	316,822	.....	237,808	.....	397,200	.....	1,819,322	.....
643,434	3,063,282	499,722	2,525,615	425,459	3,450,475	660,481	2,488,421	402,272	2,737,906	502,722	2,585,729	3,134,090	16,851,428
969,636	2,249,469	827,372	1,846,151	876,775	1,968,008	560,465	1,879,078	804,562	2,131,176	579,506	2,039,513	4,618,316	12,113,395
69,888	.....	61,974	.....	213,538	.....	71,533	.....	76,276	.....	76,198	.....	569,407	.....
.....	1,084,544	.....	1,055,543	.....	959,108	.....	1,136,556	.....	1,370,197	.....	952,004	.....	6,557,952
315,309	.....	.....	.....	545,209	.....	.....	.....	.....	.....	.....	.....	860,518	.....
297,767	.....	152,585	.....	519,911	.....	187,654	.....	177,515	.....	.....	.....	1,335,432	.....
1,551,152	.....	1,539,639	.....	1,149,879	.....	1,542,576	.....	1,808,917	.....	1,349,190	.....	8,941,353	.....
994,429	2,723,243	1,221,421	2,221,871	1,172,632	2,351,258	1,136,970	2,490,174	1,397,144	2,927,296	1,025,067	2,526,626	6,947,663	15,240,468
258,533	.....	324,280	.....	204,697	.....	159,725	.....	180,962	.....	182,334	.....	1,310,531	.....
6,779,419	9,356,512	6,771,895	7,775,041	6,941,057	8,983,153	6,222,921	8,277,470	6,602,216	9,354,205	5,528,317	8,280,790	38,845,825	52,027,171
698,823	.....	357,403	.....	707,961	.....	510,409	.....	683,594	.....	346,228	.....	3,304,418	.....
208,938	181,311	276,975	353,932	92,320	475,442	56,469	333,182	77,191	561,114	45,320	129,878	757,213	2,034,859
3,074,337	.....	2,270,238	.....	1,834,641	.....	2,527,855	.....	2,095,912	.....	2,070,295	.....	13,873,278	.....
73,785	.....	72,339	.....	.....	.....	.....	.....	.....	.....	.....	.....	146,124	.....
239,320	.....	310,223	.....	310,481	.....	71,706	.....	67,750	.....	312,830	242,102	1,312,310	242,102
.....	227,686	.....	.....	119,080	36,880	55,785	137,479	57,553	.....	.....	.....	232,418	402,045
4,295,203	408,997	3,287,178	353,932	3,064,483	512,322	3,222,224	470,661	2,982,000	561,114	2,774,673	371,980	19,625,761	2,679,006
.....	41,765	.....	139,956	.....	50,068	.....	39,000	.....	174,259	.....	94,657	.....	539,705

companies. †Does not include intracoastal shipments.

EXPORT SHIPMENTS

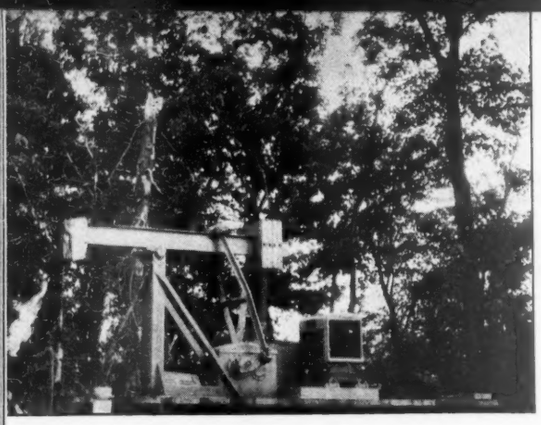
January		February		March		April		May		June		Total	
Crude	Refined	Crude	Refined	Crude	Refined	Crude	Refined	Crude	Refined	Crude	Refined	Crude	Refined
45,126	.....	271,480	.....	.....	.....	372,130	.....	434,287	.....	361,284	.....	1,484,307	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	347,000	.....	225,000	.....	254,000	.....	303,800	.....	128,000	.....	221,000	.....	1,478,800
.....	1,142,242	.....	770,341	.....	872,369	.....	1,148,204	.....	1,487,757	.....	1,067,281	.....	6,488,194
22,269	.....	117,619	.....	406,095	.....	161,838	.....	205,730	.....	.....	.....	913,551	.....
75,000	.....	.....	97,500	.....	437,200	.....	137,000	60,000	62,000	60,000	194,000	195,000	927,700
.....	132,617	67,247	125,019	91,246	160,506	.....	271,366	91,240	476,971	91,672	176,630	341,405	1,343,109
172,669	.....	121,779	.....	.....	.....	.....	.....	.....	.....	.....	.....	294,448	.....
128,958	.....	77,622	.....	115,527	.....	280,210	.....	67,265	.....	68,783	.....	738,365	.....
76,106	149,146	.....	158,072	.....	.....	.....	66,382	.....	132,258	194,011	192,220	270,117	698,078
143,418	43,699	266,129	89,428	137,259	125,416	172,525	.....	246,689	.....	145,000	.....	1,111,020	258,543
663,546	1,814,704	921,876	1,465,360	750,127	1,849,491	986,703	1,926,752	1,105,211	2,286,986	920,750	1,851,131	5,348,213	11,194,424
.....	.....	103,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	103,300	.....
.....	.....	.....	.....	.....	68,218	.....	134,898	.....	148,752	.....	87,891	.....	439,759
.....	623,894	69,782	530,228	.....	472,127	.....	603,895	.....	397,800	.....	428,618	69,782	3,056,562
.....	.....	121,871	.....	.....	.....	.....	.....	83,925	.....	84,579	.....	290,375	.....
.....	623,894	294,953	530,228	.....	540,345	.....	738,793	83,925	546,552	84,579	516,509	463,457	3,496,321
76,274	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76,274	.....
.....	173,800	.....	456,998	.....	293,338	.....	247,485	.....	214,392	.....	243,167	.....	1,629,180
.....	129,853	.....	6,986	.....	269,335	.....	298,887	.....	240,504	.....	332,469	.....	1,278,034
184,968	.....	266,773	.....	190,820	.....	423,534	.....	161,079	.....	189,632	.....	1,416,806	.....
.....	.....	.....	.....	.....	.....	182,466	.....	183,552	.....	183,816	.....	549,834	.....
183,046	.....	.....	.....	.....	.....	69,825	.....	175,010	.....	.....	.....	427,881	.....
.....	.....	53,630	.....	106,480	.....	119,181	.....	196,431	.....	101,910	.....	577,632	.....
274,505	855,415	339,562	1,225,998	794,633	1,197,079	677,303	1,280,655	1,083,673	896,377	1,098,807	1,449,550	4,268,483	6,905,074
718,793	1,159,068	659,965	1,689,982	1,091,933	1,759,752	1,472,309	1,827,027	1,799,745	1,351,273	1,574,165	2,025,186	7,316,910	9,812,288
103,433	.....	89,971	.....	30,807	.....	190,695	.....	164,398	.....	82,884	.....	662,188	.....
495,469	325,607	477,075	495,530	304,499	702,812	494,875	409,412	395,556	787,844	523,051	195,696	2,690,525	2,916,901
111,046	.....	48,049	.....	.....	.....	61,838	.....	.....	.....	570,561	.....	791,494	.....
196,411	.....	193,951	.....	233,679	.....	306,557	.....	370,613	.....	159,867	.....	1,461,078	.....
.....	34,312	89,684	226,860	323,116	.....	164,465	125,464	406,063	.....	132,320	377,548	1,115,648	764,184
906,359	359,919	989,730	722,390	892,101	702,812	1,218,430	534,876	1,336,630	787,844	1,468,683	573,244	6,720,933	3,681,085

COMPARATIVE WATER SHIPMENTS BY SIX MONTHS' PERIODS

Period—	Coastwise Crude	Coastwise Refined	Export Crude	Export Refined	Total
1st. 6 mo. 1938	79,966,228	103,433,977	19,849,513	28,184,118	231,433,836
2nd 6 mo. 1937	99,417,813	110,142,948	18,075,160	28,609,298	256,245,219
1st 6 mo. 1937	96,592,329	107,767,354	13,403,459	18,940,915	236,704,057
2nd 6 mo. 1936	86,227,344	109,737,467	10,517,694	15,377,355	221,859,860
1st 6 mo. 1936	74,600,353	100,823,175	6,366,563	13,492,865	195,282,956
2nd 6 mo. 1935	70,312,463	84,155,591	9,457,430	15,642,426	179,567,910
1st 6 mo. 1935	72,557,459	81,783,080	6,927,966	11,018,231	172,286,736
2nd 6 mo. 1934	70,749,941	72,041,194	8,189,481	11,705,695	162,686,311
1st 6 mo. 1934	67,716,435	68,729,515	6,727,502	14,792,299	157,965,751

TOTAL WATER SHIPMENTS—1938

Month—	Coastwise Crude	Coastwise Refined	Export Crude	Export Refined	Total
January	15,125,328	18,063,077	2,288,698	3,957,585	39,434,688
February	13,599,739	17,191,653	2,775,524	4,407,960	37,974,876
March	14,504,494	18,822,193	2,734,161	4,852,400	40,913,248
April	12,699,683	16,543,137	3,677,442	5,027,448	37,947,710
May	12,413,464	17,049,144	4,325,511	4,972,655	38,760,774
June	11,623,520	15,764,773	4,048,177	4,966,070	36,402,540
Total	79,966,228	103,433,977	19,849,513	28,184,118	231,433,836



On brink of Green River, Birk City, Ky.

Lease Play in Presents

Leasing and development activity is expanding daily in the Illinois basin. New strikes are attracting oil men from east and west into this region where approximately 100,000 acres of oil pools were developed in 1905-1912. Since this area was passed over some 30 years ago there has been pronounced development in geological methods which now permit exploration beneath the shield of glacial drift covering this area. Applied geophysics has done much to stimulate interest in this basin area, but the actual discovery of thick, saturated sand bodies in recently opened pools has done more to attract the oil men of the Mid-Continent area back to Illinois.

The Illinois basin is favorably located. There are several large cities within easy reach of the oil fields and there is an abundance of money in those cities and in the adjacent country seeking outlet, and it seems probable there will be a very active trading campaign carried on in the whole basin region for some time—some observers estimate for the next two years at least. This means money will be spent buying leases and royalty by oil companies seeking additional production and also by speculators who hope to purchase property that can be resold at a profit. Many of those speculators have no direct interest in the production of crude oil, but merely desire to trade in leases and royalty, or any other quickly turned real or personal property.

More Major Companies Interested

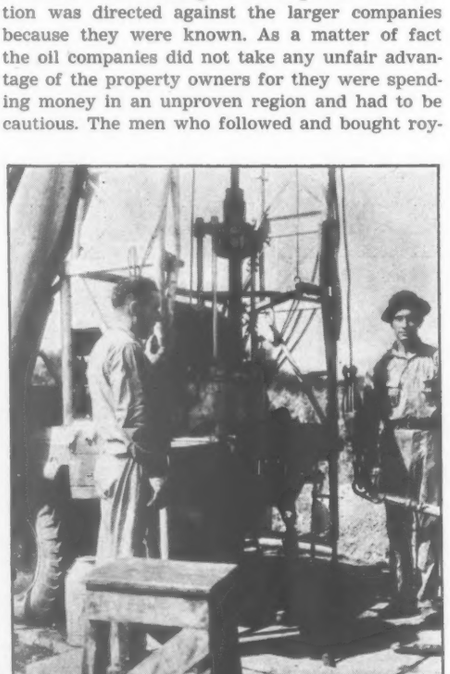
On the other hand, there will be careful buying by oil companies and independent operators from the Mid-Continent and elsewhere who will look to the building up of reserves in this area. A number of major companies did not get into the play early, just as many did not get into East Texas when prices were low, and now they will have to pay high for the choice acreage but it is probable carefully selected pieces will be worth the prices paid when averaged.

Many of the landowners of this southern Illinois region have inherited the property from others who acquired it 50 to 75 years ago and first farmed it. Later coal was discovered and much of the land leased for coal mining and the population made up of coal miners and others allied with that industry. The coal leases have in some instances included "and other minerals" and this may later lead to litigation and the necessity for the courts to define just what the term means —whether it includes oil and gas which were not suspected in that part of Illinois when the coal mining boom started.

Having acquired leases at relatively low prices some of the major companies proceeded to start test wells in Marion, Clay, Richland and Wayne counties. Oil was discovered and prices for acreage went up and those few owners who had held out were in position to demand and receive higher prices and this made their neighbors dissatisfied. As a result there has been some hesitation about signing legal documents necessary to complete lease transactions and there have been some owners inclined to argue for higher prices before completing the deal.

Titles were found good but as leases were made in a hurry little time was taken to look up deeds and details. The abstracting facilities of the counties were taxed severely and it took a lot of time to get records examined. Deeds had not been recorded and much of the land passed from father to son or daughter without formal will. The land was occupied by many families originally from Europe who brought with them customs of their native land. This has led to one son being designated as the successor to his father and the rest of the family not enjoying rights in the property. Since oil has been found under some of this land it may mean the laws of this country will be evoked and the courts may have to decide some of these title cases. The best title is perhaps that of possession acquired by the tenant through long years of living on the property and paying taxes and in other ways establishing recognition as to his right to the land.

When the land was leased by the larger companies many of the property owners were in low financial circumstances. Coal mining had not prospered for many years and agriculture in the southern counties is not as good as it is farther north, so many people were on relief and any cash looked good to them. Leases were for the most part negotiated for cash considerations. Later royalty brokers followed the lease men of the larger companies and, knowing that money talked loudest, made offers to take over the royalty and acquired much of it at very low prices. When oil was discovered the owners found they had sold their holdings too cheap and the reaction was directed against the larger companies because they were known. As a matter of fact the oil companies did not take any unfair advantage of the property owners for they were spending money in an unproven region and had to be cautious. The men who followed and bought royalty from unsuspecting owners at unreasonably low prices may defend their position by citing that they bought ahead of development of production but on the other hand most of those buyers had inside information as to the possibilities of production being found on the property before they made their offers. This is not unethical or a new circumstance in the oil fields but it does seem unjust to accuse the major companies of something in which they had no direct part.



Coring near Shelbyville, Ill.

Life Estates

One type of inherited property is that left to a widow known as a "life estate." Rights to use the surface and spend the interest on any money from royalties to coal or other minerals taken from beneath the surface is invested in the widow for life. This prevents the property from being sold and broken up into smaller parcels.

The property in southern Illinois had not been well mapped. This caused oil companies a lot of trouble and expense in resurveying and mapping the land to which they acquired lease. This, together with poor abstracting facilities, put the oil companies to considerable added expense, so if the prices paid for leases were low they did not ultimately prove such bargains when all expenses were paid.

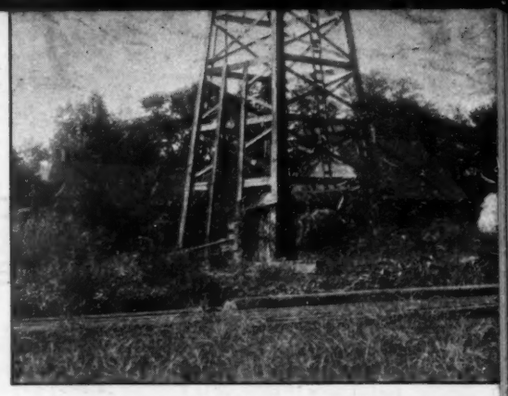
Some of the titles were not cleared before oil was found on the property. The pipe line companies made connections to the wells and ran the oil but could not pay the royalty to the property owners because title was not cleared. This caused considerable dissatisfaction on the part of lessors and many of them took advantage of the situation to refuse to sign additional papers needed to clear title unless they received more money. One company to get around this situation had the pipe line pay direct to it the 100 per cent oil runs and the oil company paid the royalty direct and avoided delay and satisfied the property owner.

Legal Chaos Corrected

Legal matters are gradually being straightened out through the combined efforts of oil company attorneys and lawyers of the Illinois basin area. These attorneys are working together and as they know local conditions and company problems they have been able to cooperate and correct conditions.

One form of disposing of land in Illinois is known as the "bond for deed" system. A bond is issued to cover the value agreed upon but the deed does not pass until the full value of the land has been paid. It is in effect placing the deed in escrow and paying for the land in installments. If the bond was executed when land values were low before oil was discovered and during the intervening period land prices advanced materially, the seller naturally felt he had made a poor bargain and the buyer was required to live up to every letter of the sales contract or the seller might foreclose and take back the land. Usually on deals of this kind made between neigh-

Illinois Basin Problems



Rotary in old wooden derrick at Centralia

bors the requirements are closely observed and little or no trouble ensues, but when outsiders are involved it is another matter.

The Illinois basin oil region has become the meeting ground for operators from the limestone fields of Michigan and the east and the sand fields operators of the Mid-Continent region. The early discoveries either in sand or lime formations did not attract much attention from the Mid-Continent operators but, being near the Michigan and other eastern fields, operators from those areas did move in early. It took the discovery of large wells in the Benoist oil sand early this summer to really arouse the interest of the operators from the west and since then both companies and individuals have been moving to the basin area from the Mid-Continent. This circumstance will bring about an amalgamation of eastern and western drilling and production practices and the benefits in ultimate recovery should be made evident as the area is developed.

It is estimated that since the campaign started about 2,125,000 acres have been leased in southern Illinois counties. An additional 420,000 acres have been leased in Indiana and about 250,000 acres in Kentucky. This play in Illinois is following the general northeast-southwest trend of the Dequoin anticline through Fayette, Marion, Jefferson and Washington counties. The land was acquired at very low bonus and rental during the early leasing activity because the major companies did not feel justified in making large outlays, and their first objective was to have geophysical surveys made and to learn as much as possible about subsurface conditions.

Play Started in 1934

The Illinois basin was the scene of leasing operations as far back as the latter part of 1934, but the companies engaged in leasing, notably Carter Oil Co., Gulf Oil Corp., Pure Oil Co., Shell Petroleum Corp., Magnolia Petroleum Co., Ohio Oil Co., Texas Co. and others, had acquired over 2,000,000 acres in 1934, 1935, and 1936, before any move was made to test the petroleum possibilities of the huge basin. In 1935, Pure Oil Co. had quietly worked over the deep part of the basin west of the La Salle anticline, and the old oil region in eastern Illinois, and had acquired large blocks of acreage. Carter Oil Co., in 1934, and Gulf Oil Corp., in 1935, moved land and lease men into the area and were followed by Shell Petroleum Corp. and Texas Co. These major companies acquired acreage over the southern end of Illinois and a number of geophysical crews were sent into the area to secure field information. This field work was satisfactory in some instances and rather disappointing in others.

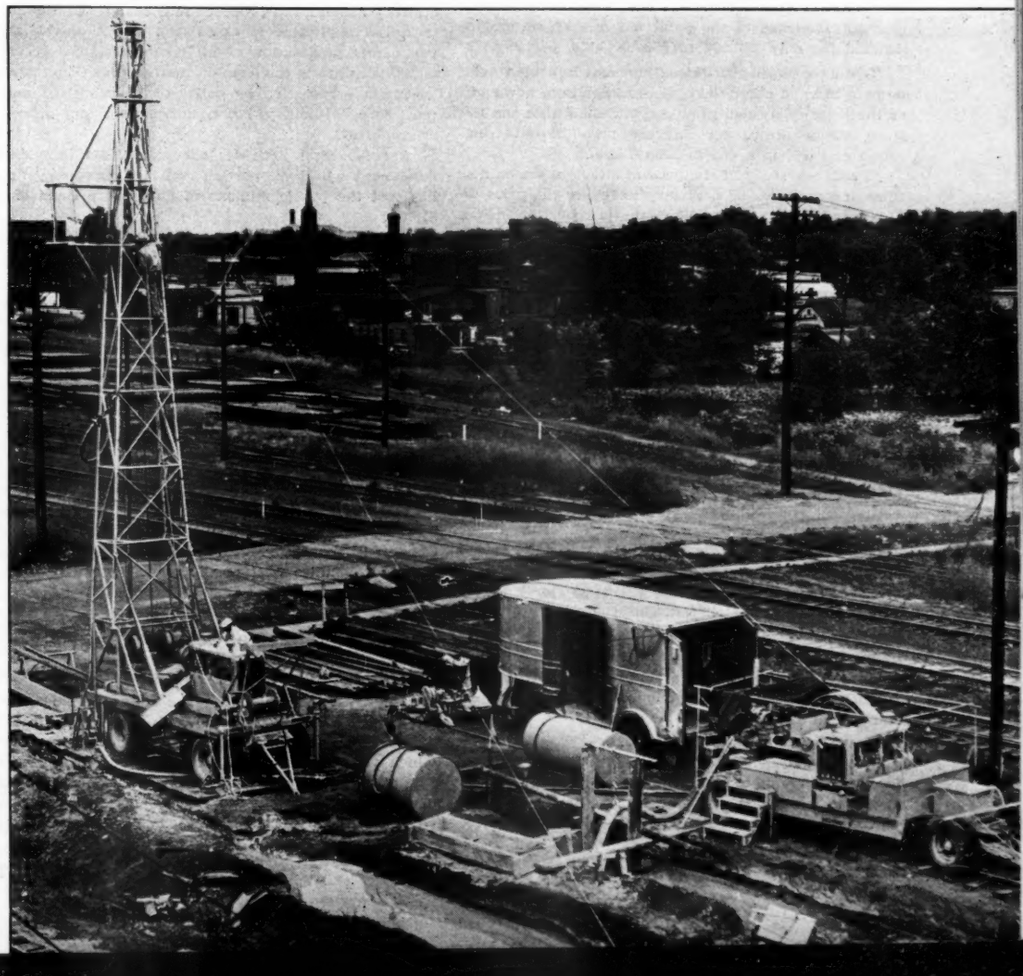
Early in 1937, Adams-Louisiana Oil Co. opened the Patoka pool in Marion County, but the discovery well, in the Benoist sand, was not a large one, and not much attention was paid to the basin by operators, either corporate or individual, aside from those already in on the play. Pure Oil Co. then discovered oil in the deep McClosky limestone in Wayne County, the company's No. 1 Bradley in Section 26-1n-7e, coming in for 100 bbls. a day at 2,982-87 feet, but this well did not stir even as much interest as the 52-bbl. Patoka discovery. It was not until Pure Oil Co. completed No. 1 Travis in Section 33-3n-8e, Clay County, with an initial production of 2,642 bbls. from McClosky lime at 2,950-60 feet, that outside operators began to take interest. The deep McClosky lime discoveries attracted Michigan oil men to Illinois, as they were familiar with the type of production and the general conditions governing drilling to the lime pay.

On the other hand the Benoist sand, while it was later found productive in the Centralia, Dix and Beecher City or Louden pools, in Clinton, Marion, Jefferson and Fayette counties, was not averaging very high in initial production, and not until Texas Co. got a 734-bbl. well from the Benoist sand on its 30,000-acre block east of the city of Centralia, did the rush to Illinois become general. Operators from the sand fields of the Mid-Continent were particularly interested by the report that the Texas Co. producer at 1,692-1,735 feet had sufficient formation pressure to require the use of oil and gas separators at the surface. In the past three weeks major companies that had remained out of the Illinois campaign, and many individuals and smaller companies, have gone into the basin, establishing headquarters in Mattoon, Centralia and other oil towns in the large area.

Development in Illinois has been rapid since large producers have been completed in the Benoist sand in the Lake Centralia field. Wells making more than 1,000 bbls. per day are not uncommon and the interesting feature of such wells is that they come in flowing with sufficient pressure to require the handling of the production in oil and gas separators. Most other Illinois fields have only pumpers either immediately or soon after completions.

County seat towns in all of the counties within the Illinois basin area in Illinois, Indiana and Kentucky are enjoying increased prosperity due to oil activity and men who have closely observed conditions and have been through other oil country booms predict activity will continue for at least two years. It is estimated it will take that long to test the productive area and to increase prices of leases and royalty to top figures. When those conditions have come to pass the "boom" will lapse but the development of the oil fields will continue. As far as the oil industry is concerned the activity is interesting but is not expected at any time to be of great enough importance to seriously affect the whole industry.

Location on Illinois Central right of way, Centralia, Illinois



High Gravity Crude in Texas Advanced; E. Texas Revised

The price structure of East Texas crude was revised when American Liberty Pipe Line Co. announced on Monday that effective September 1 it would reduce its posted price 10 cents, or to $1.25 per barrel. This posting is 5 cents per barrel higher than that set by the East Texas Refining Co. on August 20 and subsequently met by Danciger Oil & Refining Co., Inc. and the Premier Oil & Refining Co.

On Monday afternoon Stanolind Oil Purchasing Co. announced that effective September 1 its price for East Texas crude would be $1.25 per barrel. On the same day Bell General Pipe Line Co. made a like announcement and was followed by East Texas Refining Co., which raised its price 5 cents per barrel to meet the American Liberty Pipe Line Co.'s price. Humble Oil & Refining Co. on Monday night announced that effective August 29 its price for East Texas crude was $1.25 per barrel. At the same time the Humble company announced a sweeping advance in its price for oil of 41 gravity and over in Texas fields.

East Texas Situation

In announcing the price cut, American Liberty set forth that $1.35 per barrel was a false price in comparison with other Texas fields and those in North Louisiana and Arkansas. T. L. Wynne, president of American Liberty, stated in his announcement: "At the time of this increase (the 8-cent per barrel increase on May 22, 1937) there was a demand for 500,000 bbls. per day of East Texas crude at the price of $1.27 and, in addition, East Texas was operating upon a full seven-day week. It took from 30 to 60 days for the effect of this price differential to be felt and for the purchasers of East Texas crude oil to realize that it was on a non-competitive basis.

"As new fields came into production, rather than a posted price being set up on a basis comparable to East Texas, this same competitive differential was maintained. This has brought about a decline for East Texas crude until, even with Sunday shutdowns continuous and Saturday shutdowns part of the time, there has not been any increased demand, but such demand has gradually lessened to the point where there is now a demand for only 250,000 to 350,000 bbls. per day.

"We have hoped that this adjustment in price would be by a raise in other fields. An examination, however, of the price of refined products will show that the refiner cannot afford an increase, and the situation relegates itself to a cut in East Texas.

"From our study of the present situation we do not think it imperative or necessary to reduce the price to $1.20 per barrel, but we believe that a reduction in the price of 10 cents per barrel, making $1.25 posted, will place East Texas on a competitive basis."

Humble Raises High-Gravity Oils

Humble Oil & Refining Co. effective August 29 announced a new schedule of prices for oil above 40 gravity produced in Texas.

Texas produces about 150,000 bbls. a day of high gravity crude and distillate—ranging from 41 to upwards of 50 gravity. This oil has been sold on a crude basis often commanding only the 40 gravity price. Recognizing its superior worth, Humble Oil & Refining Co. has put a price on it more in keeping with its real value. The top prices range from 10 to 20 cents higher than the old top price posted for crude of 40 degrees and over. No changes were made in the prices of oil below 41 degrees in the fields in which oil is purchased on a gravity basis. Pettus crude is raised 5 cents per barrel to $1.42 flat. The Humble's new schedule for 40 degrees and over effective August 29 is as follows:

Central Texas—Starting at 40 gravity at $1.20, with 2 cents added for each degree upward to 45 degrees and over at $1.30.

East Central Texas—No change.

Gray County—40 gravity at $1.08, with 2 cents added for each degree up to and including 45 degrees and over at $1.18.

Carson and Hutchinson counties—40 gravity, $1.03, with 2 cents added for each degree upward to and including 45 gravity and over at $1.13.

Gulf Coast fields, including Conroe, Tomball, Raccoon Bend deep sand, and Satsuma—40 gravity, $1.44, with 2 cents added for each degree upward to and including 45 degrees and above at $1.54.

West Texas and New Mexico—No change.

Anahuac, Dickinson and Turtle Bay—40 gravity, $1.36, with 2 cents added for each degree upward to and including 50 degrees and over at $1.56.

Gillock, Cedar Point and Fairbanks fields—Added to gravity scale, same prices as Anahuac, Dickinson and Turtle Bay.

Refugio—40 gravity, $1.41, with 2 cents added for each degree upward to and including 50 degrees at $1.61.

Mirando district—40 gravity, $1.36, with 2 cents added for each degree upward to and including 50 degrees and over at $1.56.

Flour Bluff—Taken from gravity scale and given a flat price of $1.40 per barrel.

Pettus—Given a flat price of $1.42 per barrel.

The Stanolind Oil Purchasing Co. on Tuesday announced that its East Texas price of $1.25 per barrel had been made effective as of August 29, and the Texas Co. announced it had met the price, making it effective August 30.

Atlantic Refining Co. met the East Texas price, effective August 29, Tide Water Associated Oil Co., effective August 30 and Sinclair Crude Oil Purchasing Co. on August 30.

Regarding the price situation Colonel Thompson, of the Texas Railroad Commission, is quoted as saying on Tuesday: "Everything is all right and will continue to be all right. Crude oil will be tight September 1 when we resume Saturday shutdowns in Texas and when crude is tight, price usually takes care of itself."

Arnold Poses Questions Aimed at Oil Cases

WASHINGTON, D. C.—Thurman Arnold, assistant attorney general, has proposed four changes in the anti-trust law applicable to cases such as the Justice Department's prosecution of oil companies. His recommendations are in the form of questions for Congress.

Can a corporation be guilty of violating the anti-trust laws without guilt on the part of any officers or employes?

Are the legal penalties adequate when individual defendants who have participated in a conspiracy that has cost the public millions of dollars are fined only $1,000?

Should there be an appeal in antitrust cases, from orders granting new trials after defendants have been found guilty by a jury?

Should the trial judge after the jury has found the defendant guilty of violation of the antitrust act, have the right to free him, since such action is not appealable?

Promises a Test for Oil in Southeastern Alabama

H. A. Stebinger, writing from Clayton, Ala., says he and his associates will soon start drilling a test on a large block of acreage near Clayton. The city of Clayton is about 65 miles north of the Florida state line and 25 miles west of the Georgia state line.

California Supreme Court Upholds Long Beach

SAN FRANCISCO, Calif.—The state Supreme Court has denied Attorney General Webb a rehearing in the Long Beach tidelands case, affirming its decision which vested with the city control of the properties. The attorney general entered as intervenor in behalf of the state after the Supreme Court had issued a writ of mandate, asked by the city of Long Beach to compel its port manager, D. A. Marshall, to receive bids for erection of a derrick and drilling equipment.

The legislature in 1911 granted the city of Long Beach the tidelands in question on condition they be used only for establishment and improvement of the harbor.

Attorney General Webb argued that in view of these conditions oil drilling violated the act and contended the state was entitled to forfeiture of the grants, or that it might enjoin use of the tidelands for any other than harbor purposes.

Skelly Oil Enters Chicago Area Through Union Central

CHICAGO, Aug. 29.—Skelly Oil Co. has entered the local marketing area through an arrangement made with the Union Central Petroleum Co., which controls 45 outlets in the Windy City and suburbs with current gallonage of 500,000 gallons monthly.

It is expected that the number of stations involved will reach 70 or 80 within a month.

Skelly has completed a large and well equipped bulk station at 4820 South Richmond Street, with a capacity of 1,500,000 gallons, and has purchased a fleet of streamlined trucks for its new distributor. The stations are to be refitted as "master super-stations."

J. O. Briggs is the new division manager at Chicago. He was formerly at Kansas City, Mo. B. A. Pruitt is wholesale division manager and Dr. Ernest MacGee is sales manager of the solvent division.

Pan American Opens Deeper Sand In the Valentine, Texas, Field

HOUSTON, Tex., Aug. 30.—Pan American Production Co. extended the Valentine field 1 mile south, and opened a deeper sand, with the completion of No. 2-B Community. Perforations were made in the 7-inch casing at 9,316-23 feet and the well was brought in flowing 15 bbls. of 33.7-gravity oil per hour through a three-sixteenths inch choke. Tubing pressure was 1,750 pounds, with the casing sealed.

Atlantic Plans to Continue Program of Expansion

WASHINGTON, D. C.—The Atlantic Refining Co., of Philadelphia, Pa., filed with the Securities Commission a registration statement covering intended issuance and sale of $25,000,000 of 15-year debentures of which $16,200,000 will be used to repay bank loans.

The company said that during the year ended June 30, 1938, it spent about $31,531,000 to acquire and develop crude oil production and reserves and to improve refining, marketing and transportation facilities. It said it intends to continue spending for such purposes, but that the total amount to be spent, its allocation and the sources of additional cash fund, if any, are not now determinable.

Curtailed Crude and Lower Gasoline Cut Profits

The low level of refined prices, accompanied by curtailment in production of crude oil as the result of stricter state proration, caused a drop of about 48 per cent in net profits of Texas Corp. in the first half of this year as against the similar period of 1937, Chairman T. Rieber states.

Contracts Let for Third Tanker Of Atlantic Refining Co.

PHILADELPHIA, Pa.—Ingersoll-Rand Co. has been awarded contracts for the condensers, condenser pumps and boiler feed pumps for a third 18,500-ton tanker to be built for Atlantic Refining Co. at the Sun Shipyards, Chester, Pa. When the new vessel is commissioned in January, 1940, the Atlantic tanker fleet will contain the world's three largest welded ships, the "J. W. Van Dyke" and the "Robert H. Colley," of the same tonnage and welded construction, commissioned this year.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

No Crisis

The resumption of the two-day shutdown in Texas during September, necessitated by the effect of excessive gasoline and fuel oil stocks on the demand for crude, should be of material help in the required readjustment.

The price revisions announced Monday have removed the fear of a break in the crude market. The revision in East Texas has perhaps been overdue, considering competitive production elsewhere. The advances in the higher gravities in other Texas fields will eliminate dissatisfaction and promote stability.

The increase in high gravity will correct a situation that has been disturbing the gasoline market. Texas produces 150,000 barrels of high-gravity crude and distillate, ranging from 41 to above 50 degrees gravity which has been selling on a crude basis, often at the 40-gravity price. The revision will measure actual value.

Turning from the crude situation to the refined division, runs to stills continue excessive, except in the Mid-Continent area. It is more doubtful that gasoline stocks can be reduced to the minimum set for October 1, indications pointing to an excess of 3,000,000 barrels. But looking over the record of the season, while the refiners have failed to make the necessary curtailment, the net surplus need not be alarming, if subsequent operations are prudent.

The fuel oil stock level remains high, so high, in fact, that there seems little occasion for fear of gasoline stocks being increased through anticipatory manufacture of heating oils this season.

So far as the industry's own operations are concerned the remedies are obvious, but there are contingencies outside the industry which have to be considered.

Regulation through political agencies has its hazards because of changes in administration, a danger in any form of official control which is one reason why business has opposed extension of governmental influence.

It is possible that the industry has been unduly flustered by the assumed upset in the Texas Railroad Commission following the defeat of Commissioner Terrell by G. A. Sadler of East Texas. It may be a case of borrowing trouble.

The stabilizing effect of the commission's administration, in sharp contrast to conditions when it took hold, is appreciated in the industry and familiar to all.

Mr. Sadler's nomination, it should be remembered, carries no popular mandate for reversing the conservation policy of the commission. His success was part of the drift shown in the nomination of O'Daniel at the first primary and the defeat of political veterans for other nominations at both primaries.

The conservation policy has been well established by convincing demonstration of its necessity and advantages. Mr. Sadler, in his statements since his nomination, has affirmed his approval of the conservation principle. He has explicitly stated that he will follow a middle course as between the sometimes divergent opinions of Colonel Thompson and Commissioner Smith, supporting whichever view he considers right.

He has announced his general policy that there should be no discrimination between districts on allowables; strict conservation; no changes in mind for East Texas allowables; opposition to special allowables in special areas to supply particular needs; and elimination of granting drilling permits as exceptions to Rule 37. This last restriction, he says, will obviate necessity for Sunday or Saturday shutdowns.

The present problems which beset the industry should be ironed out long before January 1 if the industry adjusts its operations to requirements as necessity plainly dictates.

Programs and Meetings

A.I.M.M.E. Program for San Antonio And Los Angeles Meetings

Due to the scope of technical papers at the A.I.M.M.E., Petroleum Division, San Antonio, Tex., meeting, the opening has been moved up to October 5. The meeting will close October 7 with all sessions at the Plaza Hotel.

Benjamin C. Craft, secretary-treasurer of the petroleum division, is chairman of the San Antonio program committee, and Ray Floyd Schoolfield is in charge of local arrangements. The local committee consists of E. L. Porch, Jr., W. W. Kelley, W. H. Spice, Jr., W. J. Buzzini, Jr., and Ed W. Owen. The South Texas section of the American Association of Petroleum Geologists will function as unofficial host to the A.I.M.M.E. meeting.

Two weeks after the San Antonio meeting, western members of the A.I.M.M.E., Petroleum Division, will meet at Los Angeles, Calif., October 20 and 21, in conjunction with the industrial minerals division. Harry P. Stolz is program committee chairman for the petroleum division. Chester Naramore, new assistant secretary of the A.I.M.M.E., will attend both the San Antonio and Los Angeles meetings.

The tentative San Antonio program follows:

Squeeze Cementing, by C. P. Parsons, Halliburton Oil Well Cementing Co.

Properties of Oil Well Cement, by Eugene L. Davis, the Texas Co.

A Method for Determining the Water Content of Sands, by H. G. Botset, Gulf Research and Development Co.

Core Analysis and Interpretation, by Howard Pyle and John Sherborne, Union Oil Co. of California.

Core Analysis, by James A. Lewis, Core Laboratories, Inc.

The Effect of Pressure Reduction on Core Saturation, by H. G. Botset and Morris Muskat, Gulf Research and Development Co.

Electric Logging, by R. Roubidoux, Halliburton Oil Cementing Co.

An Apparatus for the Determination of Porosity by the Gas Expansion Method, by Albert B. Stevens, A. and M. College of Texas.

New Developments in the Chemical Treatment of Wells, by P. E. Fitzgerald, Dowell, Inc.

Effect of Acid Treatment upon Ultimate Recovery from Some Limestone Fields in Kansas, by R. E. Heithecker, U. S. Bureau of Mines.

The Surface Chemistry of Clays and Shales, by Allen D. Garrison, the Rice Institute.

The Viscosity Characteristics of Clays, by G. Broughton and R. S. Hand, Massachusetts Institute of Technology.

Surface and Interfacial Tensions of Oil-water Systems in Texas Oil Sands, by H. K. Livingston, Shell Research Fellow, the University of Texas.

Flow of Oil-water Mixtures Through Unconsolidated Sands, by M. C. Leverett, Massachusetts Institute of Technology.

The Interfacial Tension Between Reservoir Oil and Water, by Claude R. Hocott, Humble Oil and Refining Co.

A Visual Study of the Flow of Air-water Mixtures in a Vertical Pipe, by R. L. Huntington and Sylvan Cromer, University of Oklahoma.

Significance of the Critical Phenomena in Oil and Gas Production by D. L. Katz and C. C. Singleberry, University of Michigan.

Hydrocarbons, by W. K. Lewis, Massachusetts Institute of Technology.

Fluid Level Determination with the Echo-Meter, by J. J. Jakosky, International Geophysics, Inc.

The Application of Gravel-packing to Oil Wells in California, by E. L. Davis and W. A. Clark, the Texas Co.

Economics of Repressuring, by R. J. Schilthuis, Humble Oil and Refining Co.

The Development of Decline Curve Analysis by Valuation Classes at the University of Oklahoma, by H. E. Gross, University of Oklahoma.

Geophysical Possibilities of Soil Analysis by Mitchell Tucker, Geological Scientific Service Co.

The tentative Los Angeles program on October 20-21, follows:

MORNING SESSION

Interpretation of Deeply Buried Structures: Geophysical; Geological, by Walter English, W. S. W. Kew, and others.

Theoretical Reservoir Conditions: Physical Relationship of Oil and Gas, by John F. Dodge.

A Suggested Cause and Measure of Retrograde Condensation and Retrograde Vaporization, by W. H. Geis.

Field Development and Field Operations, by Stanley Herold.

AFTERNOON SESSION

Modern Trends in Drilling Equipment, by A. H. Bell and others.

Current Trend in Drilling Practices, by A. S. Hayes and others.

A Resume of the Technique and Economics of Coring, by Sam Grinsfelder.

Core Analysis, by Howard C. Pyle and John E. Sherborne.

Formation Tests, by D. T. Hoenshell.

Casing and Cementing: Requirements of the California State Division of Oil and Gas, by E. Huguenin; Casing Trends, by N. W. Wickersham and Mr. Fromme; Cementing, by E. L. Davis.

Production Equipment, by C. A. Yeatman.

Completion Methods, by W. Clarke.

A program is being arranged by the Industrial Minerals Division for October 21. Robert Linton is chairman of the program committee. The following papers have been definitely scheduled:

Titania Deposits in the San Gabriel Mountains, by George Anderson.

Occurrence and Exploitation of Filtering Clays in the Southwest, by G. A. Schroter and Ian Campbell.

Production and Utilization of Talc in the Southwest, by B. M. Burchfiel.

Mineral Insulating Materials, by B. M. Snyder and Frank R. Wicks.

Reduction of Livingstonite Concentrates, by H. B. Menardi.

Fresh Water Diatomite, by Henry Mulryan.

Recent Developments in Clay and Sillimanite, by J. Clark Sutherland.

A.A.P.G. Annual Meeting to Be in Oklahoma City

The executive committee of the American Association of Petroleum Geologists has accepted the invitation of the Oklahoma City Geological Society to hold the twenty-fourth annual meeting of the association in Oklahoma City March 22, 23, and 24, 1939. The 1932 annual meeting was held in Oklahoma City.

CALENDAR

September

AMERICAN CHEMICAL SOCIETY, Milwaukee, Wis., Sept. 5-9.

NATIONAL PETROLEUM ASSOCIATION, Atlantic City, N. J., Hotel Traymore, Sept. 14-16.

PACIFIC COAST GAS ASSOCIATION, Santa Barbara, Calif., Biltmore Hotel, Sept. 14-16.

NATIONAL INDUSTRIAL ADVERTISING ASSOCIATION, Cleveland, Ohio, Sept. 21-23.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, midyear meeting, under direction of West Texas Geological Society, El Paso, Tex., Sept. 27-Oct. 2.

October

NATIONAL LUBRICATING GREASE INSTITUTE, Chicago, Oct. 3-4.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, San Antonio, Tex., Oct. 5-7.

SOCIETY OF AUTOMOTIVE ENGINEERS, National Regional Fuels and Lubricants meeting, Tulsa, Oct. 6-7.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Minerals Division, Knoxville, Tenn., Oct. 6-8.

NATIONAL BITUMINOUS CONFERENCE, sponsored by W.P.R.A. and Montana and Mississippi Highway Departments, Biloxi, Miss., Edgewater Beach Hotel, Oct. 10-13.

AMERICAN GAS ASSOCIATION, Atlantic City, N. J., Oct. 10-14.

NORTH AMERICAN GASOLINE TAX CONFERENCE, Tulsa, Oct. 10-14.

NATIONAL SAFETY CONGRESS, Chicago, Stevens Hotel, Oct. 10-14.

SOCIETY OF AUTOMOTIVE ENGINEERS, Aircraft Production meeting, Los Angeles, Ambassador Hotel, Oct. 13-15.

NATIONAL STRIPPER WELL ASSOCIATION, Tulsa, Oct. 18.

INDEPENDENT PETROLEUM ASSOCIATION, Tulsa, Oct. 19-21.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Minerals and Petroleum Divisions, Los Angeles, Oct. 20-21.

NATIONAL ASSOCIATION OF CREDIT MEN, Petroleum Refiners Division, Indianapolis, Ind., Oct. 24-26.

NATIONAL PETROLEUM ASSOCIATION, Department of Fire and Accident Prevention, Olean, N. Y., Oct. 26.

MID-CONTINENT OIL & GAS ASSOCIATION, Texas Division, San Antonio, Oct. 27-29.

November

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, regional meeting, Tucson, Ariz., Nov. 1-5.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, Pacific Section, Los Angeles, Nov. 3-4.

AMERICAN PETROLEUM INSTITUTE, annual meeting, Chicago, Stevens Hotel, Nov. 14-18.

December

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, New York, Dec. 5-9.

March, 1939

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, annual meeting, Oklahoma City, Okla., March 22-24.

Origin and Accumulation of Oil Is Sagely Debated

By L. G. E. BIGNELL

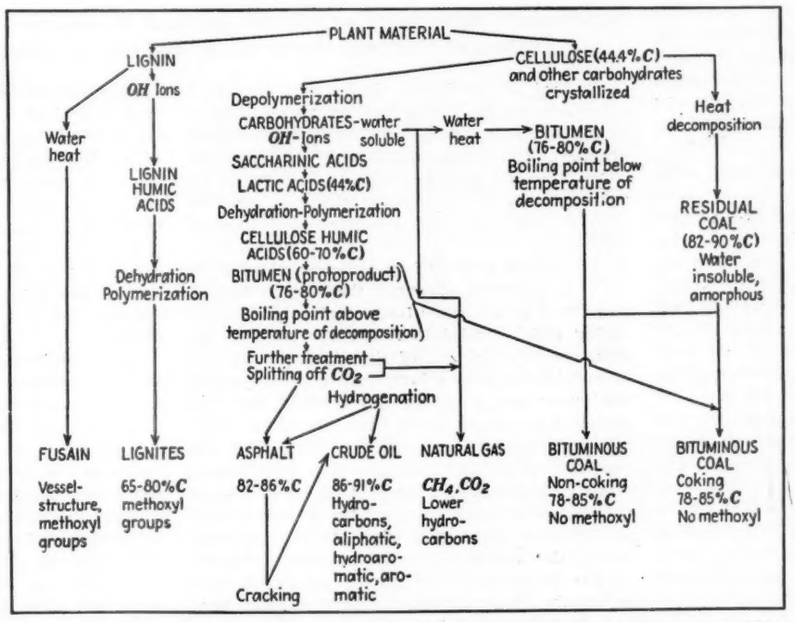
The study of origin and accumulation of crude oil and natural gas is of importance because a knowledge of these subjects will aid in finding additional supplies of these valuable natural resources. Chemists, physicists and geologists have advanced various theories to explain the formation of hydrocarbons and while many of them are tentative when tested in the laboratory they fall short of meeting conditions known to exist in the earth's crust. Some of these theories may account for the formation of a substance similar to petroleum but they will not account for the commercial oil fields as known.

Chemists have been prone to regard the chemical nature of the substance as its primary characteristics and have complicated the issue by suggesting many ways in which petroleum, or hydrocarbons, could be produced if an unrestricted choice of the materials was available and conditions to which they were subjected could be controlled. In other words, if the chemist could use materials that are known to exist in an unrestricted manner it would be possible to produce hydrocarbon products but nature has restricted many factors while the chemist has not been so bound in his studies.

The inorganic theory will fall in this general category of chemical means by which hydrocarbons may be formed but when geological evidence is weighed along with this theory it is found that many elements are missing and it would be difficult for such chemical reactions as outlined by the chemist to have taken place. On the other hand geologists have gone astray in preparing hypothesis to account for the origin of oil because they have been beyond their own field of inquiry.

To make a complete study of origin and accumulation of crude oil it is first quite essential to consider the geological evidence. The history of oil fields must be studied and the facts correlated with chemical methods if the true answer to these important problems is to be obtained. It is known that most oil fields are found in sedimentary rocks and it is therefore logical to assume the material from which petroleum has been made has been laid down in sedimentary rocks. There are also limiting conditions of temperature and pressure to which the rocks have been subjected which would eliminate many theories of origin advanced by some investigators.

It is interesting to note in this connection that the oil fields have been found in relatively young rocks. Wallace E. Pratt states in an article in the Lamp, if a geologic time scale were devised which divided the entire duration of life on earth into 100 equal units, and if these units, for convenience, were designated as years, then of all the oil found in the United States 37 per cent would have been contained in the rocks of the sea floors laid down during the last three of these geologic years; 57 per cent of the total discoveries would have been in the rocks formed during the last 10 years of the time scale; and only 43 per cent of the oil found would have been contained in rocks formed during the preceding 90 years. This time study indicates that the commercial oil fields that have been found are in comparatively recently formed formations and while the process of making petroleum and hydrocarbons may have been going on through all geological time during which sedimentation was taking place the older oil has been lost due to earth movements except in a few instances.



Origin of coals, oil, asphalt and natural gas from Dr. E. Berl's paper, "The Origin of Petroleum"

In a recent article presented before the Oklahoma City meeting of the American Institute of Mining Engineers, Dr. E. Berl reviewed the progress made in the study of the origin of petroleum. The older theories are reviewed and for the most part discarded because they do not coincide with geological facts. Doctor Berl then goes on to discuss a newer theory that asphalts are the parent material of crude oil and that, through their transformation, aliphatic hydrocarbons as well as aromatic and hydroaromatic hydrocarbons are formed. A simple way to form aromatic and naphthenic substances from aliphatic substances is discussed and it is shown that carbohydrates can be formed from aliphatic substances by chemical influence and moderate heat.

There is no other material formed by nature in such enormous quantities as carbohydrates. An estimate of carbohydrates by Lippmann is given in the following table:

Carbohydrates—	Metric tons of carbon content
CO_2 content in atmosphere	6 x 10^{11}
C content in plants	2.7 x 10^{11}
Annual production of cellulose and other carbohydrates	0.03 x 10^{11}
Anthracites	4.2 x 10^{11}
Bituminous coals in the earth	40.0 x 10^{11}
Bituminous coals in the U.S.A.	25.0 x 10^{11}
Lignites	15 x 10^{11}
Peat	11 x 10^{11}
Crude oil	0.07 x 10^{11}

Carbohydrates are very reactive substances. Dextrose can be decomposed in more than 20 different ways. Carbohydrate content of plant debris covered by inorganic material, especially carbonates of calcium and magnesium, zeolites, and other silicates, can be decomposed by heat treatment with the formation of water-soluble substances, which afterward undergo further geochemical changes and form crude oil.

The theory of decomposition of carbohydrates, lignin and its derivatives by bacteria is next discussed by Doctor Berl and also the decomposition of those substances by heat and pressure. The influence of alkali on decomposition of carbohydrates is pronounced and the heat decomposition of cellulose and other carbohydrates accelerated by the presence of small amounts of alkali at the beginning of the decomposition.

The accompanying figure or family tree shows Doctor Berl's views concerning the formation of oils, asphalts and natural gas, and of fuseins, lignites and bituminous coals. Water-soluble carbohydrates were formed from the plant body. Under certain conditions they were separated from the original plant material. They could sink into greater depths. Under the influence of alkaline-acting mother rocks, this material could be transformed into protoproducts, asphalts, and finally into crude oil. Lignites and fuseins are derivatives of lignin, and bituminous coals giving sandy or hard coke are formed from carbohydrates according to geochemical conditions in nature.

While several sources of oil may be considered the one outlined above seems to satisfy statistical, chemical and geological requirements most fully. It is based upon experiment—namely, that carbohydrates and derivatives thereof are the chief parent material for asphalts and crude oils—should be given primary consideration. This theory also seems to explain all chemical

and physical facts associated with the origin of oil. Its accumulation in reservoir rocks will be next considered.

Petroleum in solid, liquid and gas form is of widespread occurrence and is found mostly in sediments. Porous rocks such as sandstones, dolomites and limestones form the reservoir rocks. Shales, marls and limestones form thick sedimentary series of rocks and may be considered as the source beds in which the crude oil and natural gas has been generated. Shales and limestones may still contain oil but in too diffused a condition or too tightly held to be extracted profitably by the usual method of drilling.

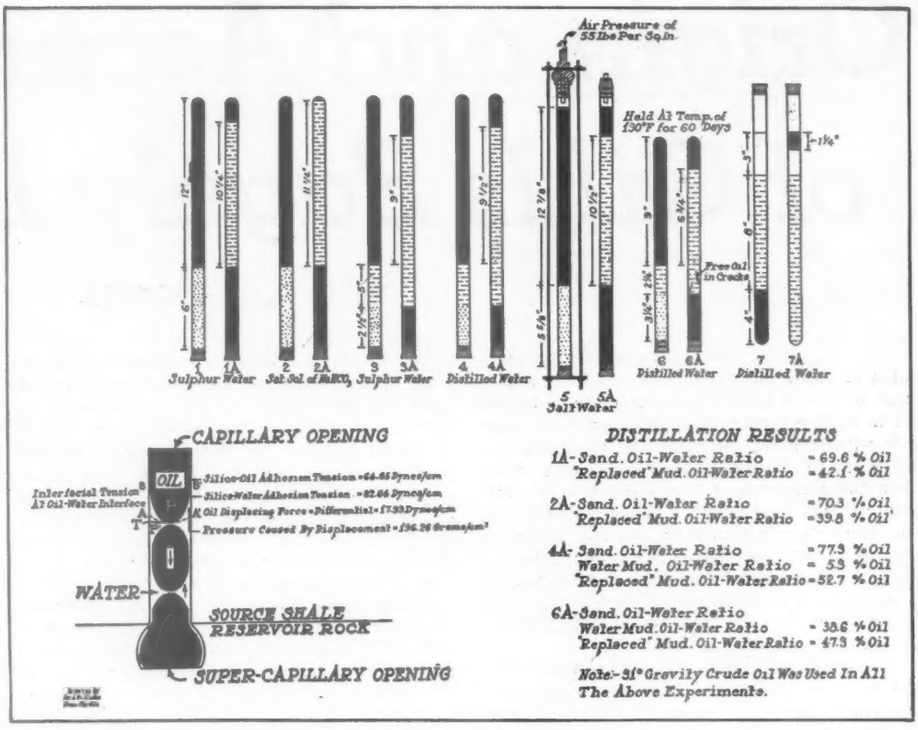
Oil-Bearing Rocks of Marine Origin

Oil-bearing rocks are usually of marine origin. Under such conditions it is logical to assume they were filled with salt water at one time. Source rocks were also laid down in marine environment. When one class of rock is superimposed over the other and compaction takes place it has been demonstrated that oil will move from the shales and find lodgment in the pore spaces in the sandstone. Likewise limestone pore spaces will be filled with oil indigenous to the limestone. This transfer of oil from one type rock to another can be explained by capillary action. The sands were originally filled with salt water which escaped as the muds and silts above or below were slowly compacted into shales. As the water was squeezed out of the mud and it dried there is a natural tendency for it to draw water from the adjacent sand body by capillary action. The wetting of the capillary openings in both the sandstone and the shale is accomplished by interfacial tension or the greater power of the water to wet the silica grains forming the sandstone or the mud particles making up the shales than the oil possesses.

Following periods of deposition when silts, muds and sands were laid down in sea basins there comes the era of consolidation and compaction of these materials to form them into rocks. Assume a body of sand has been laid down between two strata of mud and silt. As the weight of the mass increases the silt and mud will consolidate and the sand will be compressed. Water originally in the sand will be pressed out until the sand is comparatively dry and during the same period of time the silts and muds will compact and dry out. The oil in the source beds will be forced to find other space into which it can accumulate as the shales are formed because the pore space in the shales is limited. On the other hand the sand grains will pack but will still have pore spaces surround the grains which will vary with grain size and volume of secondary material which fills the space between grains and cements the grains of sand together.

The essential characteristics of rocks in which oil reservoirs occur is porosity. This porosity may be due to pore spaces in the rock or to faults and fissures large enough to allow gas and oil to accumulate. To retain the hydrocarbons it is also necessary the reservoir be sealed with some impervious envelope. With these two conditions satisfied, gas and oil will tend to migrate upward in the reservoir and stratify according to specific gravity with water usually found below the zone of oil.

Soon after commercial oil wells were drilled in this country many men began to speculate as to the geological conditions governing the occurrence of gas and oil. It is reported Colonel Drake, who drilled the first commercial well, held to the theory that the oil he had discovered was flowing through an underground channel and ultimately all of the oil in the vicinity would drain to his well. For this reason he showed little interest in acquiring other leases so when his well played out he did not have other places to drill.


Air Pressure of 55 Lbs Per Sq.In.
Held At Temp. of 130°F for 60 Days
Free Oil in Cracks
1 Sulphur Water
1A
2 Sat. Sol. of NaCl
2A
3 Sulphur Water
3A
4 Distilled Water
4A
5 Salt Water
5A
6 Distilled Water
6A
7 Distilled Water
7A
CAPILLARY OPENING
OIL
WATER
SOURCE SHALE
RESERVOIR ROCK
SUPER-CAPILLARY OPENING
DISTILLATION RESULTS
1A-Sand. Oil-Water Ratio = 69.6 % Oil
"Replaced" Mud. Oil-Water Ratio = 42.1 % Oil
2A-Sand. Oil-Water Ratio = 70.3 % Oil
"Replaced" Mud. Oil-Water Ratio = 39.8 % Oil
4A-Sand. Oil-Water Ratio = 77.3 % Oil
Water Mud. Oil-Water Ratio = 5.3 % Oil
"Replaced" Mud. Oil-Water Ratio = 52.7 % Oil
6A-Sand. Oil-Water Ratio
Water Mud. Oil-Water Ratio = 38.6 % Oil
"Replaced" Mud. Oil-Water Ratio = 47.3 % Oil
Note:- 31° Gravity Crude Oil Was Used In All The Above Experiments.

Replacement experiments as reported by Alex W. McCoy and W. Ross Keyte. Interpretations of structural theory for oil and gas migration and accumulation

In 1861 the anticlinal theory was advocated independently by T. Sterry Hunt and E. B. Andrews but their conceptions were fundamentally different. The ideas advanced by Sterry Hunt conform to the general principle accepted to account for the anticline as providing a favorable place for the accumulation of gas and oil because it is lighter than water and would therefore float to the highest position in a water-saturated rock.

E. B. Andrews advanced the theory that oil was found in anticlines because of secondary fissuring which tended to follow the crest of the structure. The folding of the strata which had been laid down in a horizontal position caused the upper part to crack and fracture and this fissuring produced zones into which the fluid movement could take place, and gas and oil was supposed to take advantage of this condition.

From these simple early ideas the geological theories of oil accumulation have grown in complexity with discoveries of fields in new areas where the geological conditions were different.

The property of wetting the sand and moistening the shale will act to draw the water from the sand beds and into the shales. This movement will dislodge the oil from its source bed and it will move into the pore spaces between the sand grains from which some of the water has escaped. This countercurrent movement of water and oil may go on for a long period of time but the forces which cause the movement are of ample magnitude to account for the reaction and they will continue to act until a condition of equilibrium has been established. Natural gas evolved with the oil will also tend to escape into the upper part of the reservoir space because of its lighter specific gravity and by this same selective force the oil will stratify beneath the gas and the salt water will accumulate below the oil. These conditions of stratification applies to free gas, oil and water and it is known that gas may be in solution in the oil and also that connate water will be in the reservoir rock adjacent to the space filled with crude oil.

To complete these cycles of forming and accumulating gas and oil in reservoirs which form the commercial gas and oil fields of today may require geologic time. The forces may act slowly but they will continue to be effective until a state of equilibrium has been reached and when the reservoir has been charged it will remain in a static state until equilibrium is upset by movements in the earth's crust or until the reservoir is tapped by holes drilled by man. It seems possible gas and oil have been moved through reservoir rocks from one end to the other when the regional dip of the stratified formations was altered.

The significance of this study of oil origin and accumulation lies in the fact that there are on earth two petroleum-bearing provinces of major importance. One is the Mediterranean area of the old world, including, in addition to the environs of the Mediterranean Sea, the region adjacent to the Persian Gulf, the Black, the Red and the Caspian seas. The other province is in the new world adjacent to the Gulf of Mexico and Caribbean Sea. To a lesser degree parts of the margins on both sides of the Pacific Ocean were sites of shallow marine waters in recent geologic time, and are now prolific sources of oil, but severe earth movements has dissipated much of the oil originally contained in the geologically young rocks of the Pacific province.

Oil in Old Rocks

In the Mississippi Valley and the plains on either side of the Ural Mountains in Russia and Siberia the earth's crust has been relatively stable through long geologic periods and in those areas oil is found in geologically older rocks.

With these known facts the geologist is now seeking shore lines of ancient seas where it is possible conditions have been favorable for the origin and accumulation of gas and oil. Surface evidence is lacking in most of these regions but by the drilling of exploratory wells to secure stratigraphic data it may be possible to reconstruct many of the conditions that have existed in past geological times and in this way locate some of the many oil fields which must exist as stratigraphic traps and hidden pools.

STATE CAPITALS

LOUISIANA

THE LOUISIANA DEPARTMENT OF CONSERVATION fixed the allowable production of the state in September at 260,260 bbls. per day, of which South Louisiana is given 190,260 bbls. and North Louisiana 70,000 bbls. The department reduced the North Louisiana allowable 4,550 bbls. per day and increased South Louisiana 8,095 bbls. The net increase in the state over the August allowable of 256,715 bbls. is 3,545 bbls. per day. The Evangeline (Jennings) pool in Acadia Parish was given the largest increase, from 17,600 bbls. to 21,500 bbls. daily.

GOVERNOR RICHARD W. LECHE, commenting on the new spacing rule in the Shreveport field in Louisiana, which permits one well to 10 acres within the city of Shreveport and one well to 40 acres on leases outside the city limits, said that this order would be amended to protect the small land owner, so that where there is a division of property in small plots there will be 10-acre spacing whether the property is inside or outside the city. The Shreveport field was opened in July by R. E. Allison in Section 27-18n-14w in the basal Glen Rose horizon.

ARKANSAS

STATE CONSERVATION BOARD OF ARKANSAS ordered a continuance of the August production allowables through September except for the Reynolds lime horizon in the Schuler field, which was increased from 1,000 bbls. per day to 1,500 bbls. per day.

Buckner field, 6 wells, was given a daily allowable of 1,200 bbls.; the 101 wells in the south Miller County field a total daily allowable of 6,874 bbls.; the Jones sand of Schuler field, 70 wells, 21,000 bbls. daily; the Reynolds lime, Schuler field, 5 wells, 1,500 bbls. daily.

In continuing current allowables, the board adopted the suggestion of producers in the fields.

The board decided not to fix an allowable at this time for the new Magnolia-Village field, pending further information.

CALIFORNIA

CALIFORNIA'S DAILY ALLOWABLE production in September remained unchanged at 610,000 bbls. as Central Committee of California Oil Producers, official curtailment group, recommended that the daily allotment for September will be the same as that which prevailed during August. The committee was of the opinion that consumption would taper off rather slowly and instead of reducing the allowable, took the position that a concerted attempt to secure more effective curtailment would accomplish more in reducing production. Excess production during the past few months due to consistent completion of numerous new wells in the Wilmington, Rosecrans, Rio Bravo and various other fields has kept state production far above the committee's recommendations. Operators in the Lake View section of the Midway-Sunset field recently voted to continue the production moratorium. Under this moratorium, operators suspend production activities entirely for the first 10 days of each month.

OKLAHOMA

OKLAHOMA'S CRUDE OIL ALLOWABLE in September was continued at 428,000 bbls. a day by the Corporation Commission after State Conservation Officer Armstrong conferred with producers and buyers. Following the meetings Mr. Armstrong said: "Oklahoma right now is more than 100,000 bbls. under the Bureau of Mines estimates. That is a greater reduction than any of the other states, and two or three times more than some states have cut. We have done our part all along, and the figures will prove it."

The prorated areas in the state are allowed 268,368 bbls. and unprorated fields (stripper wells) 159,632 bbls. The Oklahoma Wilcox zone is allowed 76,100 bbls. per day or 5 per cent of its potential; Class B pools 100,484 bbls.; Class C pools 41,244 bbls.; Class D, 7,288 bbls. and unclassified prorated areas 43,252 bbls. of which 20,873 bbls. is in the Oklahoma City lower Simpson, upper Simpson dolomite and Pawhuska zones. The total Oklahoma City allowable will be 96,973 bbls. per day. Fitts is allowed 39,059 bbls. and Seminole fields 39,050 bbls.

TEXAS

THE TWO DAY SHUTDOWN IN TEXAS will be resumed on September 1 by order of the Texas Railroad Commission signed by Chairman C. V. Terrell and Ernest Thompson, which will result in a large decrease in the allowable production of the country's largest producing state. The commission's figures show that the basic allowable for the state counting the two day per week shutdown (Saturdays and Sundays) will be 1,233,248 bbls. The United States Bureau of Mines estimate of demand from Texas is 1,308,600 bbls. per day. The Rodessa field in Texas and wells in other fields that would be materially damaged by being shut-in were exempted from the shutdown but are expected to cut their daily output to conform with the average on a five-day basis.

Colonel Thompson said it was necessary to resume the Saturday shutdown in order to forestall pipe line proration. Gasoline stocks have been piling up and it is necessary to give refiners an opportunity to liquidate the excess. The peak of the consuming season will be reached by Labor Day. The allowables for September 1, not considering shutdowns, will be as follows:

East Texas, 516,147 bbls.; Panhandle, including Moore County and Osborne area, 82,912 bbls.; North Texas, including Anderson-Kerr, Foard County, K. M. A. and Gant, 88,008 bbls.; West Central, 79,067 bbls.; West Texas, 223,578 bbls.; East Central, 112,163 bbls.; Southwest Texas, 292,805 bbls.; and Gulf Coast, 254,813 bbls. Total, 1,649,493 bbls.

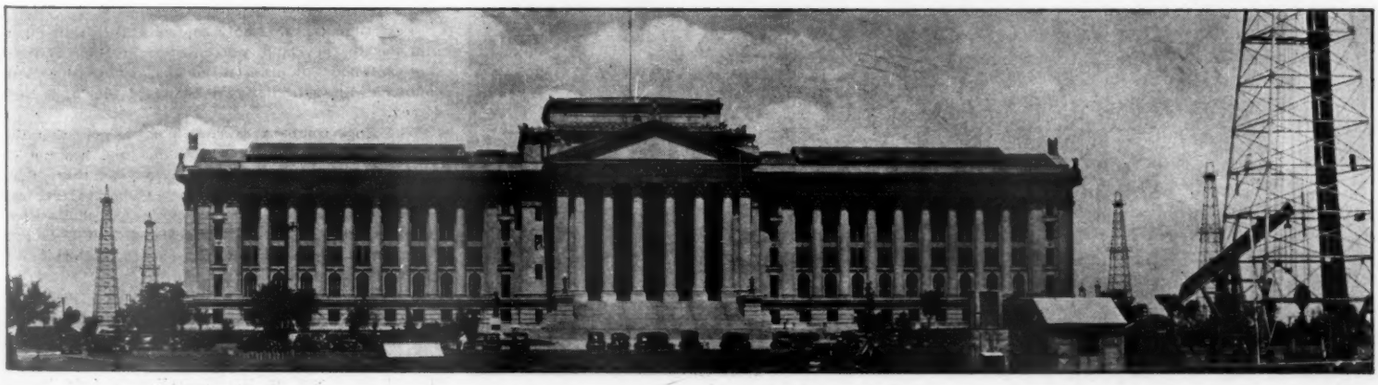
K. M. A. was given a September 1 allowance, exclusive of shutdowns, of 21,233 bbls. daily, compared to 18,817 bbls. on August 1.

KANSAS

AN ALLOWABLE OF 165,000 BBLS. DAILY for Kansas oil production in September was announced by the Kansas Corporation Commission on August 27. It is the same as the August allowable and is close to the U. S. Bureau of Mines estimate of demand from Kansas, which was 168,000 bbls. per day in September.

ALLOWABLE PRODUCTION OF GAS in the Otis field of Rush and Barton counties in September was placed at 400,000,000 feet, an increase of 35,000,000 feet over the August allowable, and at 135,000,000 feet from the Burrton field of Reno and Harvey counties as against 165,000,000 feet in August.

The commission did not announce an allowable production for the immense seven-county Hugoton field. Nominations by Hugoton gas purchasers at a recent market hearing totaled 2,171,000,000 feet for September.



Oklahoma state capitol, Oklahoma City

Pipe Line Activity

Fayette County, Illinois, Has New Pipe Line Outlet

MATTOON, Ill., Aug. 29.—By degrees the Illinois oil fields are acquiring crude oil outlets. The latest is that of the Carter Oil Co. with its 14-mile pipe line from the Beecher City (Louden) pool in Fayette County to Brownstown, where it connects with the Illinois Pipe Line Co.'s system. The Carter line is an 8-inch carrier, most of which has been laid for some time, but which has been prevented from crossing under the public roads of the state by county highway authorities. For a month the company and the governing authorities have been at odds, but it is all over now. Representatives of the oil company, the largest acreage holder in the county, and the county board got together at Vandalia, the county seat, and thrashed out their differences which had been occasioned by misunderstandings.

Permission to cross the state aid roads with its pipe line had been denied the Carter Oil Co. following the filing of an injunction suit by the company against the county restraining the county from drilling on acreage in the Loudon Township oil area. The temporary injunction was granted a month ago by Federal Judge Wham and the hearing on the permanent injunction will be held about September 1. Proceeds derived from the sale of the product was to be used by the county in improving the state aid roads in accordance with a resolution passed by the county board. The Carter Oil Co. in its suit maintains that the county purchased the strip of land, one-quarter mile in length and 160 feet wide for highway purposes and is entitled to only surface possession while the Carter Oil Co. leased the land for its mineral rights.

Walter Davison, legal representative of the Carter Oil Co. and the Oklahoma Pipe Line Co., explained to the County Board of Supervisors that development of the Carter's holdings in Fayette County was being retarded by the county's refusal to let the companies construct their pipe line across the state aid roads.

"We did not intend to offend the county by crossing the state aid roads without permission. We had obtained permission from the state to cross all highways and thought all roads were under state supervision until stopped by your superintendent of highways."

Mr. Davison explained the proration in other states which Illinois has not yet adopted. He stated that the Owensboro Pipe Line Co. with its 4-inch pipe line had been able to take only a small portion of the Carter Oil Co. production and that the Carter Oil Co. had created its own market by obtaining a contract with the Imperial Oil, Ltd., in Canada.

The result of the meeting was that the Carter Oil Co. was given permission to cross the highways, and soon the company will be shipping oil through the line, into the Illinois Pipe Line and thence into the Buckeye lines to Sarnia, Ontario, where the Imperial, a Standard (New Jersey) subsidiary, will refine it.

French Government to Build 280-Mile Gasoline Line

Announcement has just been made that a 280-mile gasoline pipe line which will connect the Atlantic Coast with inland consuming centers of France will be constructed in the near future, according to a report to the Department of Commerce from the office of the American Trade Commissioner at Paris.

This proposal, which has been under consideration for some time, has been approved by the so-called committee on fuels and will be made possible through money appropriated by the government for a public works program. This particular project, which is estimated to cost about 150,000,000 francs (approximately $4,125,000 at the current rate of exchange), will be undertaken under the auspices of the Ministry of National Defense and will be paid for with money alloted to the ministry.

The new pipe line will extend for a distance of 450 kilometers from St. Nazaire to Montargis, following from the coast inland the valley of the Loire River. The entire line will be placed underground to prevent the possibility of destruction and will be used exclusively for the transport of gasoline. Actual construction is expected to begin in October, 1938.

Texas Pipe Line Assessments For 1938 Have Been Revised

AUSTIN, Tex.—The State Intangible Tax Board fixed 1938 assessments for 25 oil pipe line companies at a total of $48,140,000, a reduction of $6,574,669 from last year.

Secretary of State Clark said the values were lowered in many instances because the companies' income had been reduced. He said the Interstate Commerce Commission had reduced their tariffs which cut into profits. Taxes of 13 companies were reduced, 8 were increased and 4 were listed for the first time.

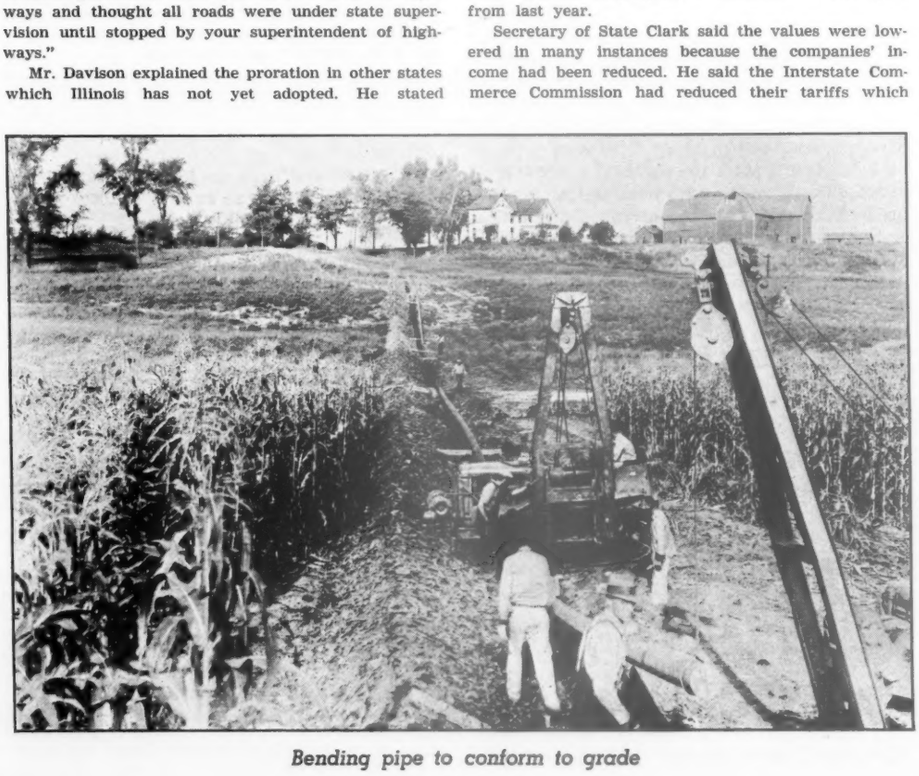
Companies assessed for the first time were Texas-New Mexico Pipe Line Co., $2,400,000; Empire Pipe Line Co., $145,000; Southern Pipe Line Co., $150,000, and Barnsdall Pipe Line Co., $25,000.

Reductions were listed for Gulf Refining Co., from $3,171,260 to $3,000,000; Magnolia Pipe Line Co., $5,500,000 to $2,700,000; Shell Pipe Line Co., $4,661,355 to $3,000,000; Sinclair Refining Co., $7,290,610 to $4,800,000; Texas Pipe Line Co., $6,505,000 to $2,500,000; American Liberty Pipe Line Co., $328,310 to $275,000; Pure Transportation Co., $2,694,015 to $2,315,000; Sun Pipe Line Co., $1,827,919 to $1,730,000; United Oil Pipe Line Co., $150,000 to $140,000; Arkansas Pipe Line Corp., $782,700 to $665,000; Reagan County Purchasing Co., $45,000 to $15,000; Tidal Pipe Line Co., $1,035,295 to $875,000, and Toronto Pipe Line Co., $100,000 to $90,000.

Those increased were Atlantic Pipe Line Co., $5,000,000 to $6,000,000; Humble Pipe Line Co., $10,670,920 to $11,300,000; Republic Pipe Line Co., $443,850 to $600,000; Texas Empire Pipe Line Co., $2,861,110 to $3,500,000; Yount-Lee Pipe Line Co., $585,475 to $750,000; Crude Oil Pipe Line Co., $112,050 to $180,000; Pan American Pipe Line Co., $575,000 to $900,000, and Standish Pipe Line Co., $50,000 to $60,000.

The Pasotex and Duval Pipe Line companies' assessments remained undetermined. Pasotex received a preliminary assessment of $875,000, a reduction from last year's $200,000, while the Duval company was given a preliminary assessment of $100,000. Valley Pipe Line Co., assessed at $125,000 last year, did not appear on this year's list.

A State Supreme Court ruling last year brought the pipe line companies under the intangible assets tax law, formerly applying to railroads only.



Bending pipe to conform to grade

Natural Gas

Lone Star to Dispose of Two Operating Units

Lone Star Gas Corp., whose recent issuance of $20,000,000 of debentures comprised the first capital market operation of a registered public utility holding company, is contemplating disposing of two isolated operating units to meet requirements of Section 11 of the act. Since most of the Lone Star Gas Corp. system is in Texas and Oklahoma, integration is relatively simple.

The two units to be disposed of are Council Bluffs Gas Co. in Iowa and Northern Natural Gas Co., which furnishes gas wholesale to the Council Bluffs company. Disposal of these properties would lead to retirement of a portion of the newly issued bonds.

Hope Natural Gas Co. Answers Complaint of Cleveland, Ohio

WASHINGTON, D. C.—Hope Natural Gas Co. has defended the rates it charges East Ohio Co. in an answer filed with the Federal Power Commission to the complaint of the city of Cleveland that the charges it makes to East Ohio Gas Co. are greatly in excess of the price charged to others.

East Ohio Gas Co., only company distributing natural gas in Cleveland, purchases from Hope Natural Gas Co. about 70 per cent of the gas it sells. Both companies are subsidiaries of Standard Oil Co. of New Jersey.

The Hope company averred in its answer that the price it charges East Ohio does not and has not in any recent years been sufficient to yield more than a fair return on the fair value of its property devoted to that service. Hope also stated that differences in prices between that charged East Ohio and others arise solely out of differences in the terms and conditions of service.

JACKSON, Miss.—Firefighters extinguished the 11-day gas well fire August 26. It was estimated 220,000,000 feet of gas were lost from Rankinside Development Co.'s well in the Hinds-Rankin field before Patton Corp. of Texas brought the flow under control.

Refinery Expansion

Record Demand for Gasoline in Alberta Area

ALBERTA, Canada, Aug. 29.—Gasoline demand in the Alberta area is reported as the highest in 12 years. Both British American and McColl-Frontenac interests are working on plans for refineries to be constructed in Calgary for the processing of Turner Valley crude but there is no possibility of completing these plants in time to handle the present demand. Other refineries in the district are working at capacity to handle the market.

The Pocatello refinery of Inland Empire Refineries has completed its trial runs and is now on regular production with increase of runs to its daily capacity of 1,500 bbls. expected soon. The plant operates on crude from the Cut Bank field. An increasing demand is also seen from the Yale Oil Co. refinery at Kalispell, Mont. The Northwest Refinery at Shelby reports plant operating at capacity with a market available for larger output. The railway is now drawing heavily on fuel oil storage at this plant. Satisfactory progress is reported on the new refinery being erected at Spokane, Wash., which will be operated on Cut Bank crude.

British American May Reopen Two Canadian Plants

Immediate reopening of the old Bell refinery at Calgary, Alberta, is planned by the British American Oil Co. to meet advancing demand for refined products. The company's plant near Coutts is also being reopened for emergency use. This plant will use crude from Montana fields now in storage at Coutts. The company has been processing its crude at the Imperial Oil Co. plant in Calgary.

South Arkansas Plant Nearing Completion

SHREVEPORT, La.—Work on the construction of a $35,000 refinery at Genoa, 10 miles southeast of Texarkana, Ark., is nearing completion and the plant is expected to be placed in operation by September 20. The plant is being built by Frank Stratton of Texarkana. It will operate on crude from the two Miller County, Ark., fields, one the Capps field and the other the Lenz and Fitzwater field. The crude will be transported by tankcar and trucks to the plant.

New Refinery Starts Operation

TEXARKANA, Ark., Aug. 29.—A 500-bbl. daily capacity refinery to process oil from the south Miller County and Garland City fields is being constructed by Frank Stratton, of Texarkana, about 8 miles southeast of Texarkana.

The plant is expected to be completed and ready to start operations by September 20. Under present arrangements, the plant will produce four grades of gasoline, motor fuel and heating fuel.

Most of the crude will be shipped to the plant by tankcars although some will be hauled by truck.

Gasoline Products Reduces Cracking Royalty Charges

Gasoline Products Co., licensor for many years of the Cross, Holmes-Manley and DeFlorez cracking processes and more recently, with its licensing agent, the M. W. Kellogg Co., originator of the "Combination" and "Unicoil" processes, announces reductions in the royalty rates for its various processes for the United States and Canada.

As in the past, Gasoline Products Co. will continue to grant licenses either on basis of charge or of gasoline produced and either on a running or paid-up basis. All of these licenses may be obtained with "defense only" or with full obligation on the licensor to "defend and hold harmless." Effective October 1, 1938, the rates based on fresh charge to regular cracking units will be 5 cents per barrel for "defense and hold harmless" and 4 cents per barrel for "defense only." Rates based on gasoline produced will be proportionately reduced, and paid-up rates will also be subject to reductions. Special rates for reforming will be continued.

The company will continue to provide the fullest possible engineering and general consulting service to its licensees.

Derby Suit Against Universal Oil Not To Be Brought to Trial

CHICAGO, Aug. 27.—A suit brought by Derby Oil Co. against Universal Products Co. seeking punitive damages of $8,000,000 was thrown out of court by Federal Judge Richard J. Hopkins in Wichita, Kans.

Derby alleged that it had been deprived of profits to which it was entitled through violations by Universal of the federal antitrust laws. The judge held otherwise.

Derby was formerly a licensee of Universal, using the Dubbs cracking process from 1923 to 1933.

In the spring of 1933, Derby Oil, having refused for some time to pay royalties due, Universal cancelled the license agreement. In 1934, Universal sued Derby Oil's parent company, Derby Oil & Refining Co., to collect back royalties, which then amounted to a large sum, and also for infringement because Derby Oil had continued to operate the Dubbs process despite cancellation of the license agreement.

Derby Oil filed its suit in Kansas against Universal for damages in 1935.

Universal moved for a separate trial before a judge without a jury to determine the questions of law involved. It is this trial which has resulted in the decision for Universal ordering the dismissal of Derby Oil's suit.

The judge found that, first, neither the license agreement nor any of the acts of Universal in any way violated the antitrust laws, and second, that if Derby ever had a cause of action, it was outlawed by the statute of limitations.

Natural Gasoline

Pressure Maintenance in Nueces County, Texas

Pressure maintenance and the production of distillate are to be combined in a project undertaken by the newly formed Corpus Christi Corp. W. K. Warren, president of Warren Petroleum Corp., and two independent operators, Clyde Alexander, formerly vice president of Phillips Petroleum Corp., and John Sherrin, formerly president of Shamrock Oil Corp., are officers in the new company. An expenditure of $2,000,000 will be involved in carrying out the program now planned. A contract for the construction of a 50,000,000-foot plant has been awarded to the Stearns-Roger Manufacturing Co. of Denver, Colo. Cost of the plant will be $500,000; plant operation will start in November.

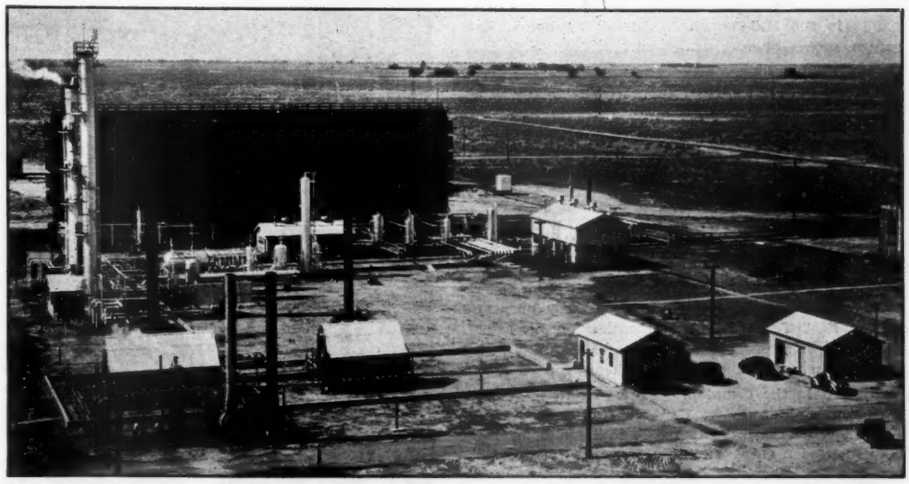
The corporation has under lease a block of 8,300 acres recently purchased from John F. Camp on which seven distillate wells have been completed, with a combined potential of 250,000,000 feet daily; reservoir pressure is 2,200 pounds; distillate is 58-gravity, 30 color. Three additional wells are to be drilled immediately. The residue from the plant is to be returned to the formation through three input wells which are to be drilled. Arrangements have been made to have all drilling done by the Camp Drilling Co.

A similar project is being planned by F. C. Henderson on a 1,000-acre block in Nueces County. He has three producing wells with a potential of 75,000,000 feet per day and will drill six more wells on the lease. The Henderson plant will also process 50,000,000 feet per day.

Texas Commission Grants Permit to Recycle Gas

AUSTIN, Tex.—The Railroad Commission granted permission to the Champlin, Bass & Patton Co. to produce gas from gas wells in the Long Lake field, Anderson County, remove its gasoline content and return the residue to the horizon from which it was produced.

The commission called a hearing at Kilgore September 1 on operations of the Southport Petroleum Co. refinery, casinghead and vapor recovery plants, in that city. The purpose of the hearing will be to determine whether additional regulations should be promulgated to give the commission sufficient data to check operations of the plants.



New absorption plant being operated by Union Oil Co. to handle the gas output of wells in the Rio Bravo field, near Shafter in Kern County, California. This $500,000 latest-type plant will treat 20,000,000 feet of gas daily. Although it is less than a year since Union Oil Co. discovered this prolific field with the then deepest well in the world at the time, it is estimated that wells already drilled are capable of running the plant to capacity. Due to field production curtailment, however, the plant at present is treating only 5,000,000 feet of gas, with a 3,000-gallon natural gasoline yield, daily.

Pure Oil Resumes Purchases In the Healdton Field

Pure Oil Co. resumed 100 per cent purchases in the Healdton field, Carter County, Oklahoma, August 29, thus considerably relieving the market situation in southern Oklahoma. The company reduced its Healdton purchases 60 per cent August 1 because its storage was filled, due to a shutdown of the Muskogee refinery. That condition has been remedied, enabling Pure to resume full purchases. It will run some oil to storage until the Ben Franklin refinery at Ardmore begins operations, when some of the Pure connections will be turned to the refining company. Shell Petroleum Corp. has announced reduction of its Healdton purchases to 40 per cent, effective September 1, and, although it was expected the order would be rescinded as a result of Pure's action, this had not been done Tuesday. The Ben Franklin refinery is expected to start operations about September 15, and will run between 4,000 and 5,000 bbls. of southern Oklahoma crude daily.

Longer Hauling Hours Asked For Oil Field Drivers

The Interstate Commerce Commission has been asked to modify its hours of service order to permit drivers for oil field haulers to work 14 hours a day, if necessary.

The petition, filed by the oil field division of the Texas Motor Transportation Association and the Mid-Continent Oil Field Haulers Conference, stated the commission's order limiting a work day to 10 hours was unreasonable when applied to carriers of oil field equipment and supplies, because oil field shipments are uncertain, and it is impracticable to spot relief drivers. The petition stated more liberal hours were desired not only by the carriers and the petroleum industry, but by the drivers.

"The compensation is above the average of their locality and this petition is not made to continue long hours of service without adequate pay, but is based solely on a need by carrier, driver and the petroleum industry. Drivers of carriers do not always have steady day-to-day loads to transport and can, and do desire to drive longer than 10 hours per day."

Petroleum Rail Shippers File Complaint With I.C.C.

A complaint alleging discriminatory transportation rates on petroleum products are being levied by 79 railroads and 14 pipe line companies in the Mid-Continent area has been forwarded to the Interstate Commerce Commission at Washington, D. C., by the Petroleum Rail Shippers Association, an organization of independent refiners and jobbers of Tulsa and other points in the Mid-Continent, chiefly Oklahoma, Kansas, Arkansas and Texas.

M. H. Champion, of Anderson-Prichard Oil Corp., Oklahoma City, Okla., is president, and Douglas Orme, of Cosden Petroleum Corp., Fort Worth, Tex., secretary.

Federal Tender Board Sues East Texas Operators

DALLAS, Tex.—The Federal Tender Board, under the Connally Act, sought an injunction in federal court to have six oil companies and three operators in the East Texas field file monthly producers' reports and diagrams of properties and to grant board employes permission to examine their properties.

Named in the complaints were: W. R. Skeen and Dick Duncan, of Tyler; Cordova Gathering System; Art Oil Co.; Pennant Oil Co.; T. P. Cannon, of Henderson; Beacon Oil & Refining Co.; Octo Oil Co.; Theron Oil Co. The complaints showed 399 producing wells were involved.

Mr. Skeen and other operators recently informed the board, through counsel, that they did not believe the Connally Act applied to them since it controlled only interstate commerce. The operators contend they have been doing only intrastate business.

Obituaries

C. PARKER HOLT, vice president and director of Caterpillar Tractor Co., and for nearly 40 years affiliated with it and one of its predecessors, the Holt Manufacturing Co., died August 24 at his home in Piedmont, Calif.

JOSEPH ROBISON MORIARTY, 63, former Okmulgee, Okla., oil operator, died August 25. He had been a resident of Okmulgee 20 years.

WALTER J. THOMAS, 46, oil driller, succumbed last week to burns received in an explosion at a Montebello, California, oil well.

W. J. WYATT, 68, founder and president of the Wyatt Metal & Boiler Works, died August 26 in a Dallas, Tex., hospital after an extended illness.

ALFRED PAUL MACHRIS, 58, died August 25 at Los Angeles, Calif. He was secretary-treasurer of Wilshire Oil Co., which he founded in 1914 with his younger brother, the late Victor Machris, and another brother, George L. Machris, now president of the organization. Born in Toronto, he removed to Los Angeles with his parents in 1884.

ROBERT S. MILLER, secretary to J. Edgar Pew, vice president of Sun Oil Co., Philadelphia, Pa., died August 11 after a 10-day illness. He joined the company in Dallas, Tex., and had served as secretary to Mr. Pew for 20 years.

FRED A. MILLER, national figure in the gas industry, and honorary board chairman of S. R. Dresser Manufacturing Co., died August 22, at Beechwood, his home at Bradford, Pa. Death was attributable to a heart ailment. He had been in failing health for several months. Born at Belmont, N. Y., May 27, 1868, he removed with his family to Bradford when 12 years of age. He was associated for 35 years with the Dresser company which he joined January 1, 1903. He became secretary-treasurer, and in 1911, president, upon the death of Solomon R. Dresser, founder of the company. In 1929, he was made chairman of the board of directors. He resigned from this position May 27, 1938, on his seventieth birthday. The directors later named him honorary chairman in recognition of his valuable services. Mr. Miller was at one time president of the Natural Gas Supply Men's Association and later a director of the American Gas Association.

FRED A. MILLER

CAPT. JOSEPH OWEN WILLIAMS, 54, marine superintendent of Mene Grande Oil Co., C.A., Gulf subsidiary company in Venezuela, died at the company hospital on August 14. He had been connected with the company's Maracaibo Lake "mosquito" fleet from the beginning in 1924 and himself delivered the first of the specially designed vessels to the oil field and lifted the first cargo of Gulf oil, delivering it to Las Piedras in January, 1925. His ship, the "Cabimas," stood by while the last connections in the new unloading line were screwed up under the vessel's own searchlights. A few months later, Mr. Williams became port captain at Las Piedras; in 1927, assistant marine superintendent, and took command of the fleet as marine superintendent in 1932. Before entering service of the Gulf companies, he had led an eventful life at sea, having been apprenticed at his native home at South Shields, England, when 14. He commanded vessels from 1911 and during the war had five merchant ships sunk under him by enemy guns or torpedoes.

Navy Contracts for Gasoline And Fuel Oil Awarded

WASHINGTON, D. C.—The Navy announced award of contracts for purchase of motor gasoline and fuel oil at a total cost of $195,111.

Contracts for 120,500 bbls. of fuel oil at an approximate cost of $95,825 were divided among five contractors: Texas Co., New York, 12,500 bbls., $9,375; Standard Oil Co. of Louisiana, New Orleans, 65,000 bbls., $48,750; Belcher Oil Co., Miami, Fla., 2,000 bbls., $2,850; Colonial Beacon Oil Co., Houston, Tex., 30,000 bbls., $22,350.

Contracts for 46,250 bbls. of fuel oil for Diesel engines at an approximate cost of $90,284 were distributed among seven contractors: Standard Oil Co. of Louisiana, 6,000 bbls., $9,900; Belcher Oil Co., 750 bbls., $1,653; Colonial Beacon Oil Co., 8,300 bbls., $17,196; Tide Water Associated Oil Co., New York, 4,500 bbls., $8,800; Sinclair Refining Co., New York, 18,200 bbls., $33,948; Eastern Petroleum Corp., Jacksonville, Fla., 500 bbls., $997, and American Mineral Spirits Co., New York, 8,000 bbls., $17,889.

Contracts for 111,000 gallons of motor gasoline at an approximate cost of $9,001 were awarded to two contractors: Texas Co., New York, 70,000 gallons for $5,223, and Socony-Vacuum Oil Co., Inc., New York, 41,000 gallons for $3,778.

THE MARKETS*

CRUDE OIL: *Major companies this week reduced their price for East Texas crude to $1.25. Independent buyers adopted the same price. Postings for the high-gravity crudes in other Texas fields were revised upward. Recognizing the threat to the crude oil price structure presented by current overproduction, the Texas Railroad Commission Monday reduced the state's allowable and reinstated Saturday shutdowns.*

REFINERY: *General weakness prevails in the gasoline market, with prices falling. Various conditions have contributed to this softness, but the major one probably lies in failure to reduce stocks to the point hoped for. Continuation of the advance in Pennsylvania lubricant prices is steadying the market in other areas.*

TANK-WAGON AND POSTED DEALER: *Socony-Vacuum announced adjustments in gasoline and kerosene at several eastern points. Other changes inconsequential.*

FINANCIAL: *Oil shares lagged, along with most other issues. Average of 30 representative stocks for week ending August 27: High, 30.61; low, 29.03; close, 29.23. Week ending August 20: High, 30.64; low, 29.42; close, 30.04.*

**Detailed information in market section.*

ENGINEERING and OPERATING

In This Issue

WHIPSTOCKS ARE BEING USED IN DEEPENING OF CALIFORNIA FIELD
By T. P. Sanders ..... *Page 30*

Production at the 3,500-foot level was obtained in the Torrance, California, field 15 years ago. Now the Del Amo zone at 4,800 feet is attracting operators and these old wells are being deepened.

DRILLING RIG USES STEAM AND INTERNAL COMBUSTION ENGINES *Page 32*

Power rigs and steam rigs are a common sight but one operator felt that neither exactly suited his requirements so he uses a power pump and a steam-driven engine on his drawworks.

GASOLINE PLANT IN WEST TEXAS OBTAINS GAS FROM 179 WELLS
By D. H. Stormont ..... *Page 33*

Profitable operation of stripper wells requires that every salable product be utilized. Experiences in West Texas are outlined.

ADVANTAGES GAINED BY USE OF WELDED CASING IN OIL WELLS
By E. W. P. Smith and R. L. Looney ..... *Page 34*

Welded strings of casing are being used more frequently. Advantages, problems and requirements of this type are discussed.

SAFETY FEATURES ON DRILLING RIGS ..... *Page 38*

Covering holes in the derrick floor may prevent a bad fall and serious injury. This article shows how drilling crews cover the rathole.

FLASH TEST IS USEFUL FOR JUDGING APPLICATION OF LIGHT OILS
By W. L. Nelson ..... *Page 42*

Flash and fire tests may be used to identify and classify oils.

BETTER COMPLETIONS REDUCE OIL-GAS RATIO IN GOLDSMITH FIELD
By D. H. Stormont ..... *Page 45*

The Goldsmith field in West Texas has been developed in an orderly and studious manner. Special attention has been given completion methods.

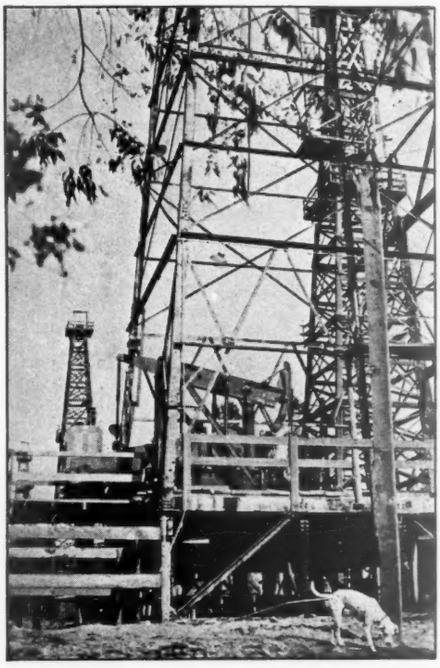
WELL POTENTIALS ARE BEING DETERMINED BY USE OF SOUND WAVES
By L. G. E. Bignell ..... *Page 49*

Echoes are always very interesting and they are now being used to find the fluid levels in oil wells by the recently developed Echo-Meter.

OPERATING IDEAS ..... *Page 41*

PROBLEMS FROM READERS—*By L. G. E. Bignell* ..... *Page 51*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph. D.* ..... *Page 53*



A pumping well in the Torrance field producing from the new Del Amo zone

Torrance Field Appearance of

By T. P. SANDERS

California's most active locality is not one of the dozen great oil or gas fields which have been discovered in the past two years; it is the 16-year-old Torrance field where 90 wells have been completed during the past eight months in a newly discovered 4,800-foot sand. With 40 strings of drilling tools operating within the confines of the Lomita town-lot section, the scene is reminiscent of the old-time booms which have all but departed from the California landscape under the modern trend toward carefully planned development. It is quite possible that here the spectacular oil boom, complete with wooden derricks, close spacing, highly competitive drilling, and unrestricted production is making its last appearance on California soil.

The Torrance boom presents a striking contrast when compared with other active areas. In the typical active field of California the problem is one of drilling up extensive proved acreage in the most economical manner. Speed is important only as it concerns economy. At Torrance, however, speed is all-important because of the small leases, the lack of curtailment, and the rapidly declining potentials. Most problems are concerned with the deepening of the old 3,500-foot wells rather than with the drilling of new wells.

Casing Programs

Several methods are being used in deepening the old holes, one of which makes use of recently designed equipment. The general objective is always to use as much of the old hole as possible without limiting the diameter of the new hole too greatly. Since most of the old holes were completed 15 years ago, several tests are usually advisable to aid in determining the method which will involve the least reconditioning work prior to deepening.

In drilling the original wells, the casing program usually called for 600 feet of 11¾-inch surface pipe. The water string, usually 8⅝-inch, was cemented over the producing zone (known as the Main zone) at an average depth of 3,500 feet. The liner, ordinarily 6⅝ inches in diameter, was set through the Main zone.

Since the old wooden derricks are used for the deepening work, the first step taken in preparation for deepening is the derrick inspection. Signs of dry rot about the base are looked for, and weak members are replaced.

Ordinarily, the next step in preparation for deepening is the surveying of the old hole. The Torrance wells were drilled early in the twenties, a time when the rotary drilling method was young and crooked holes were the rule. This was before the time of well surveying, so the holes had never been surveyed before the deepening boom started. It was learned with some surprise that deviation from the vertical is usually small, seldom exceeding 7 degrees. Other fields which were drilled up during the same period, such as Santa Fe Springs field, are notorious for their crooked holes. The gentler dips on the Torrance structure probably account for the difference.

Most wells in the Lomita area drifted to the north, which is up-dip, when they were drilled. For this reason directional drilling is often used in deepening from the Main zone to the Del Amo zone, the object being to deflect the hole back to the south.

Deepening Procedures

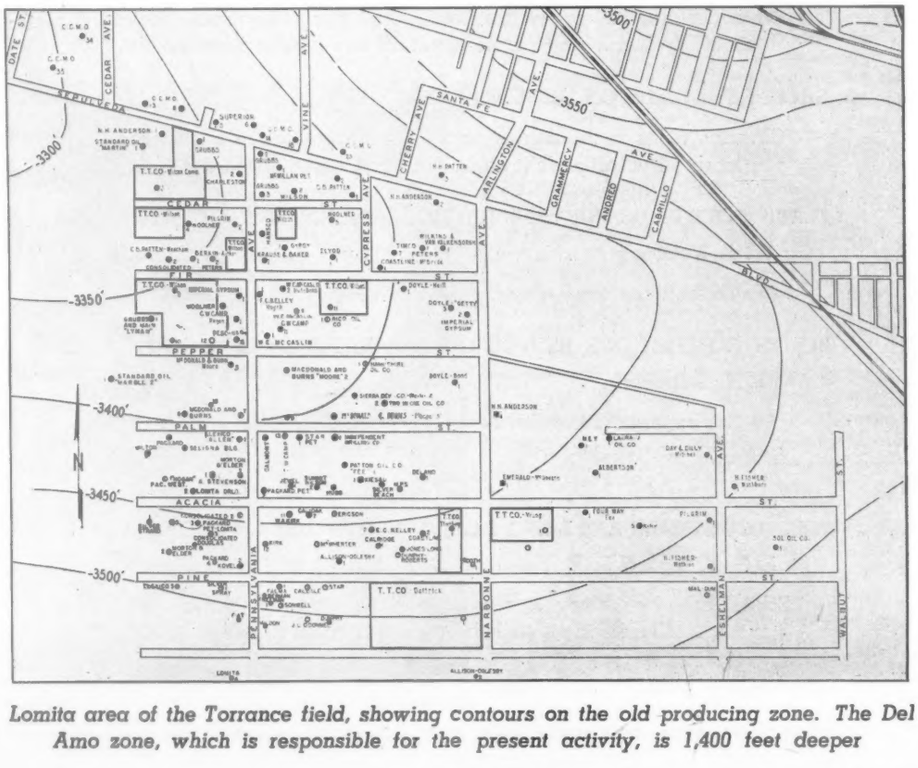
A few wells have been deepened to the Del Amo sand by drilling through the Main zone liner, which remains in place. However, this practice dangerously limits the size of the hole, unless the liner is larger than the usual 6⅝ inches. As yet no liners have been entirely removed to facilitate deepening. While this would be desirable, it would entail heavy expense since the liner would have to be cut and pulled in many short sections.

Methods For Sidetracking

In the great majority of deepening jobs all or part of the liner is sidetracked. This is being accomplished by four different methods, as follows:

1. The first method is only used by one company, and its chief advantage is a saving in the cost of technical supervision. The top of the liner is shot off below the shoe of the water string, and the short section is jarred out. The hole is then loaded with cement to cover the top of the liner and extend above the shoe of the casing. Sufficient time is given for the cement to set before further work is carried on.

It is customary at this time to test the casing for leaks by means of a hydraulic pressure test. The hole is filled with water and pressure is applied



Lomita area of the Torrance field, showing contours on the old producing zone. The Del Amo zone, which is responsible for the present activity, is 1,400 feet deeper

Taking Boom

View of the Lomita townlot section of the Torrance field, where 40 strings of tools are operating and potentials are rapidly declining

to see if any water can be forced out through leaks in the casing.

Drilling is started on top of the cement plug without setting a whipstock. The cement is hard enough to deflect the bit from the old course, but often a portion of the abandoned liner is drilled off. When this occurs the hole is recemented to avoid the possibility of the liner moving into the new hole. After the liner has been cleared, drilling is carried on in the usual manner.

2. The second method has been widely used. The top of the liner is removed to leave 40 to 50 feet of open hole below the casing shoe. This is accomplished by cutting off short liner sections with an inside rotary casing cutter and jarring these sections out one at a time. The hole is then cemented to a point above the casing shoe, and the cement is given time to set. After the casing has been subjected to the hydraulic pressure test, the cement is cleaned out to a point 20 feet below the casing shoe. Drilling is then started, using a removable whipstock or a knuckle joint to deflect the bit from the old course. This method meets with approval because there is little chance of encountering the old liner and because the "dog leg" placed in the hole is not abrupt, usually representing a change of direction of only 2½ degrees.

3. The third method was introduced a very short time ago, but it is becoming popular. Enough liner is removed to leave 20 feet of open hole below the casing shoe. A new type of whipstock is run which anchors into the top of the old liner. This deflects the bit away from the liner, and is left in the hole as a permanent installation. The advantages of this method are that it reduces the number of feet of liner which must be pulled by about 50 per cent, and it avoids the use of cement. The time saved on liner pulling and cementing usually amounts to several days.

4. The fastest sidetracking method usually consists of drilling a window through the 8⅝-inch casing somewhere above the shoe and redrilling the lower portion of the hole. This makes it unnecessary to pull any portion of the liner. However, the portion which projects above the casing shoe is usually cut off and pulled, since this task is comparatively easy.

Whipstock as Deflector

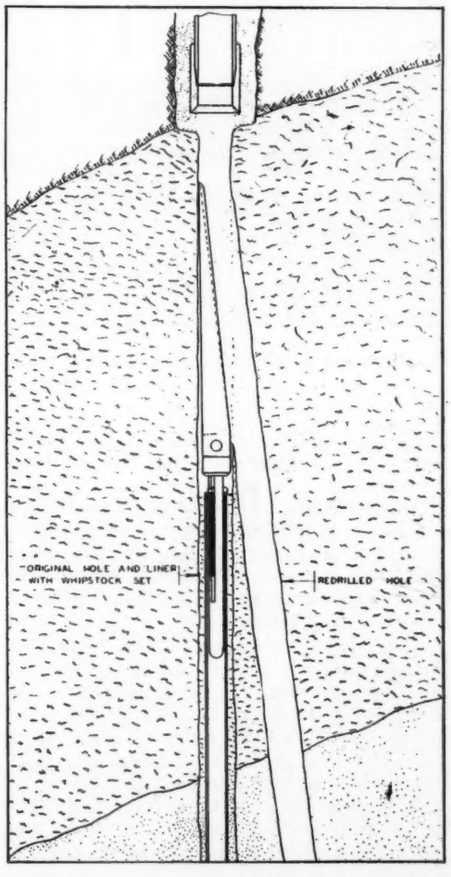
A whipstock is being used for drilling out through the water string which obviates the use of cement as a base for the deflecting tool. This whipstock is run into the well on drill pipe in the conventional manner, using a shearing stud as a releasing device. The whipstock is lowered to the shoe of the water string, or to the top of the liner, then raised slowly. At the first casing coupling a trigger in the base of the whipstock enters the opening between the joint ends, and a trip mechanism releases slips which engage the casing. The drill pipe is then lowered to set the slips, and enough weight is applied to shear the releasing stud. The drill pipe is then removed, leaving the whipstock held firmly in place by the slips.

Besides saving the use of cement, this type of whipstock has another advantage. The trip mechanism always causes the base of the whipstock to be set inside of a collar. Due to the length of the instrument, the window is always cut within one joint, and never through a collar. This avoids the possibility of parting the casing string.

After the whipstock is in place in the water string, a mill is used to drill the window. A hinge near the base of the whipstock causes the concave surface to lie flush against the wall of the casing so that the mill will not engage the taper.

Two Holes Under One Derrick

When directional drilling is used on deepening jobs, the whipstock which is set to sidetrack the liner is carefully oriented to deflect the bit in the desired direction, which is usually to the south. It is generally necessary to use whipstocks frequently in directional drilling at Torrance, because the bit exhibits a strong tendency to remain vertical or to drift slight north.



Whipstock anchored in old liner, a method used at Torrance to deepen old wells

At one location, Star Petroleum Co. drilled two wells to the deep zone under the same derrick. The first well was completed, then the hole was surveyed for both inclination and direction. After shifting the crown block, the second well was started about 18 inches from the first well. During the drilling of the second well the first well was producing through connections under the derrick floor. Whipstocks were used to deflect the second hole to a location sufficiently distant from the bottom of the first hole. So strong was the tendency toward straight drilling that about a dozen whipstocks were required.

Since the productive portion of the new zone has extended to the south of the old field's limits, many new wells are being drilled. South of Palm Street 75 per cent of the wells are being drilled from the surface. There are very few old Main zone producers in this area to be deepened. Practically all new wells are being drilled with wooden derricks. This is due to the fact that the field is located near the Los Angeles Harbor, where lumber is cheap. Also, since the operators are predominantly the smaller independents, it is doubtful if they could take advantage of the greater salvage value offered by steel equpiment.

Long Water-String

In the new wells the casing program usually followed calls for 13⅜-inch surface pipe at 600 feet. A string of 8⅝-inch casing is set either on top of the upper Del Amo zone, or at the base of the intermediate shale which separates the upper and lower Del Amo. This string, known as the water string, averages 4,000 feet in length, and is cemented with 550 sacks of cement. The 5¾-inch liners set in the Del Amo zone are usually 160 to 175 feet long, but if the upper Del Amo sand is included the length averages 250 feet.

Several of the later wells drilled have used a method for cementing the water string in two stages in order to save installation of the 600-foot surface string. When this method is used, a very short surface string is set, averaging less than 200 feet. Below this, open hole is carried to the deep sand. When the water string is run, a cementing device is placed in the string 800 feet from the top. The first stage cement job, which consists of placing 550 sacks around the casing shoe, is carried on without interference from the cementing device.

The cementing device is used for the upper stage and is known as the dual-seal cementer. It consists of a 10-foot joint of casing through which three holes have been drilled near the lower end. These holes are sealed with frangible phosphor bronze disks which are dislodged by pressures greater than 2,000 pounds. Around the joint a metal sleeve is welded which has an outside diameter 1 inch greater than that of the casing. Around

the top of the sleeve are rectangular ports, which are closed during installation of the casing by thin strips of metal.

When the lower-stage cementing job has been completed, a pressure gun is lowered into the casing. This gun is the same as the perforator except that it is loaded only with powder. At the bottom of the gun a collar locator is attached. This consists of an expanding wire cage with prongs which insert between the ends of the joints. The collar at the top of the cementing joint is first located in order to facilitate finding the lower collar. When the locator is in the lower collar the gun is spaced opposite the seal disks. Then, when the gun is fired the disks are ruptured.

In cementing the top of the casing through the cementer ports, either the one-plug or the two-plug method may be followed. Sufficient cement is forced through the ports to cement the casing to the surface. After the cement left in the casing is drilled out, the cement remaining in the sleeve around the casing acts as a seal to prevent the possibility of fluid finding its way into the casing by way of the ports. By cementing both the bottom and the top of the string at the same time, one shut-down period serves for the setting of all the cement used.

Sand Thickens to South

As pointed out by J. A. Bermingham of the Texas Co., the Del Amo sand thickens to the south in the Lomita district. Conclusions drawn in his paper, which was written during the early part of the deepening boom, have held true during six months of intense development.

The axis of the structure in the Torrance field is tilted, so that the axial center in the deep sand occurs 1,800 to 2,000 feet south of the axis in the Main zone. This condition accounts for the fact that the Del Amo production extends to the south of the old field's limits.

Because the dip in the Lomita area is to the southeast, the wells are forced to take in a smaller penetration of the sand in the southeasterly portion in order to avoid bringing in water. Indications are that the water level occurs between 4,975 and 5,000 feet in the lower Del Amo sand. Water also occurs in the intermediate shale between the upper and the lower Del Amo sands in the lower structural positions. This fact makes it necessary to complete the wells in the southeastern portion by setting the water string on top of the lower sand member. One operator is cementing a blank liner section between the two members, thereby hoping to exclude the intermediate water.

The upper Del Amo consists of 30 to 50 feet of interbedded sand and shale. The sand is firm and quite fine. Below this is 40 feet of shale containing thin streaks of oil sand and some water sand, especially in down-structure locations. Below the intermediate shale is the lower Del Amo sand, which in reality is interbedded sand and shale. The portion of this member made up of sand varies from 40 per cent in the northwest part of the Lomita area to 70 per cent in the south and southeast portions. In the most favorable locations 120 feet of this member are penetrated.

Prospects

Wells completed in the Del Amo sand are experiencing rapid decline in potentials. No proration is in effect, but the average daily production is only 137 bbls. per day at present. Some wells have shown a decline of as much as 50 per cent per month, but the average is 23 per cent per month. Because of this condition, activity is rapidly decreasing.

To the west of the Lomita town lot area the property is owned in fee by Pacific Western Oil Co. and Standard Oil Co. of California. These firms have only entered into the boom to the extent of deepening the old wells along the property lines bordering the town lots and are keeping the deep zone as reserve for the future. While the sand shows some thinning in that direction, it probably extends a considerable distance to the west.

In the Harbor City portion of the Torrance field there is one producer which apparently is bottomed in the Del Amo sand. Activity is just starting in this area, and there is a chance that it will reach sufficient proportions to bolster the rapidly declining activity in the Lomita area several miles to the west.

Power Pump, Steam Drilling Engine, Make Effective Combination

While various combinations of power and steam equipment are possible, the one utilizing steam-driven drawworks and rotary table and power-driven pump is attracting the attention of drilling contractors. It is being used to advantage where fuel oil is expensive and water scarce as little steam is required to operate the engine driving the rotary table while drilling and sufficient steam is available to run the drawworks while making a trip.

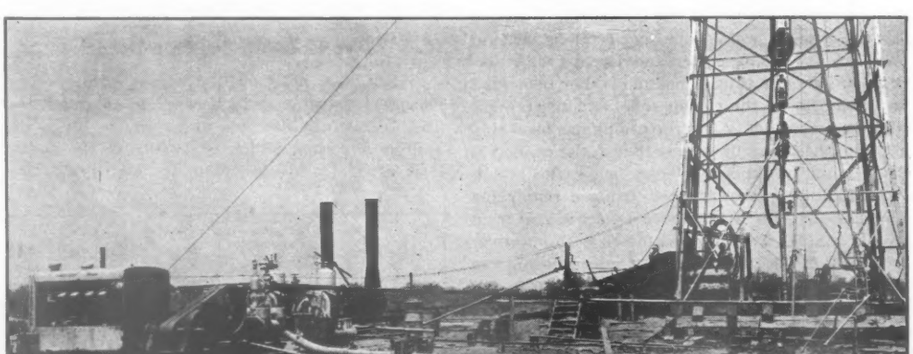
The rig shown in the photograph is located in the K.M.A. field near Wichita Falls, Tex., and has as a source of steam power two large boilers while a 14-inch stroke power pump is driven by a 125-hp. eight-cylinder, V-type Diesel engine.

Above 2,500 feet, only one boiler is required to generate steam for making trips and drilling. Below this depth both boilers are used when trips are being made. The pump delivers sufficient volume of mud at a high enough pressure for drilling requirements.

This type of installation reduces the amount of fuel and water necessary to operate the boilers by 50 per cent. The additional cost is for Diesel fuel and lubrication and up-keep of the Diesel motor. This latter expense is not great.

An Illinois operator having a similar type of rig with the exception of an individual steam-driven rotary, was well pleased. He was particularly satisfied with the ease of moving and rigging up. The motor and pump is mounted on one skid and while the rig shown has an auxiliary steam pump in addition to the power pump, the rigging up of the second pump can wait until after surface pipe is set. This leaves only the boilers to be rigged up and steam connected to the drawworks engine before drilling starts. Installation of jets and other equipment can be made while waiting on surface pipe to set. It is possible to start drilling within from six to eight hours after moving on to location.

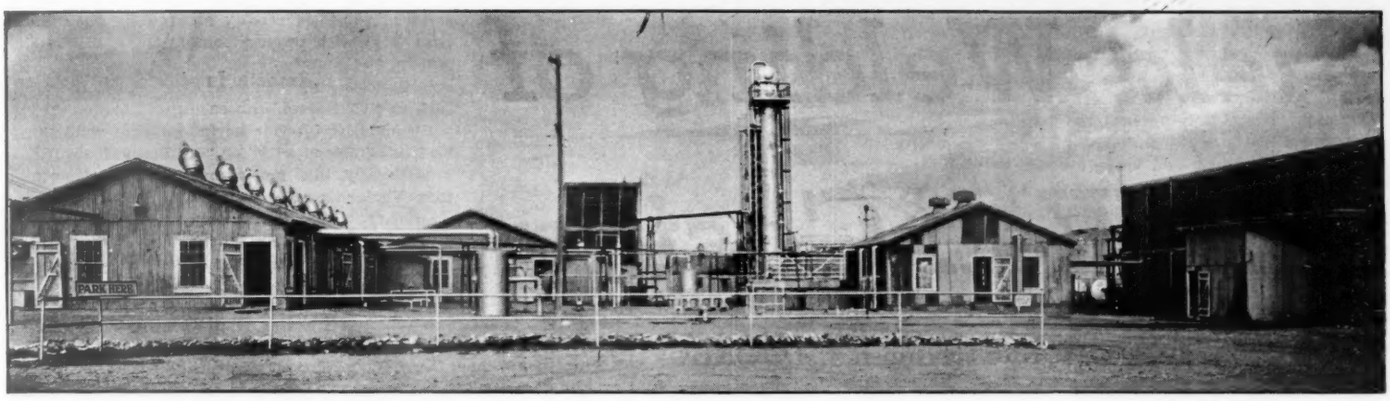
Where space is at a premium as in townlot drilling, and where modification of the location of machinery is made necessary because of obstructions, the combination steam and power rig is very convenient. The power pump can be located almost anywhere on the location as long as the suction can reach into the pit. It is only necessary to run the pump discharge line to the derrick stand-pipe. The boilers can then be located conveniently to the drawworks without consideration of pump location.



Combination of steam drilling engine and power-driven pump being used on drilling well in K.M.A. district of Texas

While steam makes a better jetting medium that drilling fluid it is sometimes necessary to unplug steam jets. By-passing mud from the pump into the jet line is generally an effective way of getting a jet started and then further jetting can be accomplished by switching back to steam. Cleaning of the pits can be done while drilling with such a combination as shown.

The contractor owning the rig shown is taking no chances on getting his drill pipe stuck or having to shut-down because of any failure in his power pump or motor. This rig is operating in "sticky" country and he has retained a steam mud pump to use in emergencies or while cleaning out the power pump. In territories where the hole stands up, the steam pump is not necessary.



Lone Star Gasoline Co.'s 65,000,000-foot absorption type natural gasoline plant at Ranger, Tex., to which 179 oil wells are connected

WEST TEXAS GASOLINE PLANTS

By D. H. Stormont

ONE SERVICE, not ordinarily thought to be within the scope of natural gasoline plant operations, is being offered by a group of plants in the West Central Texas area. This is the asssistance given operators of marginal or stripper wells in handling their casinghead gas and thereby allowing them to continue to produce wells that otherwise would be unprofitable.

In this area a great majority of the wells are operated against a vacuum of 2 to 22 ounces of water and have been for a great number of years. The fields are relatively old and the average daily output of the wells is less than one-half barrel of oil in many instances. Relatively small amounts of casinghead gas are produced, the average daily production for the area being in the neighborhood of only 40,000 feet per well. Thus it may be seen that without the natural gasoline plants to handle the gas output, most of the wells would have to be abandoned as their output of oil and gas is too low to be of commercial value. Conservation in its truest meaning is thereby being effected, as it is through this means only that a large part of the area's daily output of some 240,000 gallons of natural gasoline is being recovered. And also, much of the crude being produced under the present setup would not be recovered but would be left in the abandoned wells.

There are 28 plants now in operation, with daily capacities ranging from 600,000 to 30,000,000 cubic feet of gas. As is shown in Table 1, these plants are connected to 1,958 oil wells and 113 gas wells, according to latest Railroad Commission figures. Of these plants about half sell most of their residue to the Lone Star Gas Co. The remainder turn their residue over to gas companies serving communities in that area, or it is used for lease operations and repressuring. A further summary of the gas production and utilization is shown in Table 2. Of especial note is the fact that use of residue for gas lift and repressuring is showing an increase. This should act to prolong the life of the wells, for as the dry gas is recycled it will be enriched by the oil remaining in the formations.

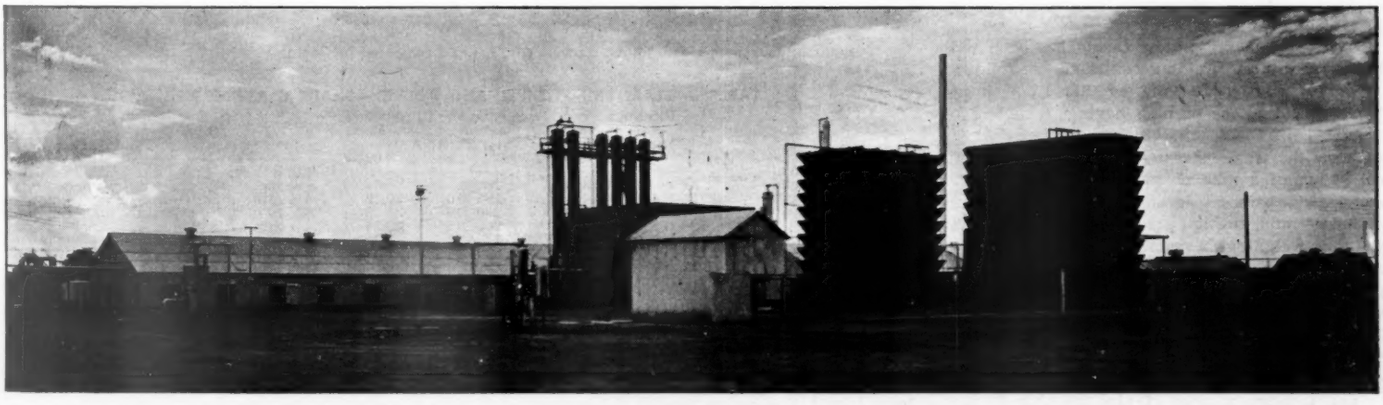
Of the 28 plants shown here, 19 are located in Eastland and Stephens counties, and it is in these counties that the plants are playing such an important role. Production is obtained almost entirely from formations of Pennsylvanian age and the fields are all old. During the first half of 1938 the total production of Eastland County averaged only 2,720 bbls. daily and Stephen's daily average was 3,750 bbls. Thus it is further emphasized that the 1,100 wells connected to gasoline plants in those two counties are of a marginal nature and any profit derived from the sale of casinghead gas may allow producers to continue their operation.

The Lone Star Gasoline Co.'s plant at Ranger and the wells connected to it may be taken as an example of operation in that area. The plant was acquired by Lone Star in January, 1931, and the producing wells connected to it are the same as when the plant was taken over, with the exception of a few minor new connections and wells that have been plugged.

In the McClesky area there are 30 producing wells connected to the plant. The wells making up this group have been pumped for years to obtain a nominal amount of oil, along with a salt water output in many cases exceeding that of the oil. Casinghead gas has been produced under vacuum for probably as long as 15 years, thus any change in their manner of operation would probably result in a lower ultimate recovery rather than in conservation. Average daily output of these wells range from 1 to 17 bbls. with an average gas production of 12,800 cubic feet per barrel of oil.

The Parsons area contains three wells connected to the plant, all of which are flowing at a point where their operation may be considered critical. Any restriction in their rate of flow would probably result in their being unable to raise the liquid they are producing, and the wells would then have to be abandoned as pumping would be economically unjustifiable. Of the 10 wells in the Duffer pool, eight are being pumped regularly to keep

(Continued on Page 46)



Consolidated Gasoline Co.'s plant at Eastland, Tex. The plant is of the absorption type and has a daily capacity of 12,000,000 feet

Field Welding of Oil Well Casing

By E. W. P. SMITH and R. L. LOONEY
Lincoln Electric Co. Big Three Welding Equipment Co.

As a guide to the welding of oil well casing, the following information is given, not as a final and arbitrary procedure, but as a step toward further developments and progress. The procedures and findings outlined in this article are based on the experiences and procedures of the past three or four years in California and Mid-Continent fields. This activity in the welding of casing includes the running of one string 8,100 feet long in the Mid-Continent field which was welded with both U-bevel and V-bevel joints and proved by 1,200-pound pressure test to be 100 per cent satisfactory.

Advantages of Welded Casing

Plain end casing for welding costs approximately 15 per cent less than thread-and-coupled casing; some of this is offset by the cost of welding at the hole but a respectable net saving remains.

A welded joint eliminates the leaking common to thread-and-coupled joints. This leakage has become increasingly objectionable because the exhaustion of shallow pools has required deeper drilling, which in turn taps oil reservoirs under greater pressure.

Higher joint efficiencies are secured with welded joints. The usual thread-and-coupled joint gives a joint efficiency of from 50 per cent to 70 per cent, whereas a welded joint may be expected to give 100 per cent. By efficiency is meant the resistance of the joint to tension, in a pulling machine, compared with jointless pipe.

Use of butt-welded joints permits a closer tolerance between inner and outer strings, which results in savings in the cost of casing and often, too, in the cost of drilling (for the surface strings).

Welded casing (with butt weld joints) is more readily recovered from an abandoned hole because its wall is streamlined, offering less resistance to pull against the packed-in wall of the hole.

Casing Problem

The problem of welding casing has been well expressed by one welding contractor as follows: "We are required to join together by welding, two vertical pieces of pipe having diameters of from 5¾ inches to 18⅝ inches or even larger; to carry the tensile stresses developed by a vertical string of a mile or more of such pipe; the compressive stresses developed by an equal depth of heavy mud, the impact of a drill stem within the pipe weighing 22 pounds per foot and revolving at 250 r.p.m.; to remain perfectly water- and gas-tight under these stresses and pressures, to be smooth on the inside within 1/32-inch and to have an outside diameter as little above the OD of the pipe as possible. In addition, we are expected to match up the ends of the pipe perfectly and to align a piece of pipe sticking 40 feet up in the derrick weighing perhaps a ton absolutely with the casing already in the hole. Bear in mind that this must be done with the maximum possible speed."

Tensile Strength

The stress caused by the weight of the string of casing is only a small part of that which the welds must be built to withstand. If for any reason the string must be pulled out, the stress caused by the resistance of the surface of the casing against the viscous mud is apt to be tremendous. Hence, there is need to produce welds that equal the full tensile strength of the casing.

Compressive Strength

Experience has shown that regardless of the type of welded joint, the extra metal supplied by the shape of the joint and bead, gives it more strength to resist compression forces than the casing itself.

Impact Strength

If a joint in a drill pipe strikes against the weld on the inside of the casing, it hits it approximately 250 times per minute. The driller may strike hard formation that keeps progress down to 1 or 2 feet an hour, and in that period an out-of-line tool joint might pound away at a joint 36,000 times. Hence the casing and welds must be able to withstand shock.

Tightness

While under any of the above stresses the joint must remain absolutely tight. This feature—one of the outstanding weaknesses of the screwed joint—is readily assured by the multi-pass weld with proper technique.

Smooth Interior

The two ends of the casing must line up exactly and the interior surface of the weld must be free of any "icicles" or "dill berries" so to not impede drill bits nor damage tool joint protectors. Various types of back-up rings have been employed to assure this interior smoothness; however, applications of the beveled butt joint now are giving smooth beads that project no more than 1/32-inch on the inside.

Small OD of Casing

Sleeve joints and bell joints have a diameter about equal to screwed collars but with butt joints, about 1 inch diameter may be saved and a real advantage is gained. The total savings in time, bits, mud and fuel afforded by a 1-inch reduction in all sizes of casing can run into thousands of dollars in a deep well. For this reason, the butt weld is receiving increased preference.

Speed of Running

It is important that casing be run with utmost speed after withdrawal of the drill pipe and release of mud circulating pressure in order to prevent the walls of the bore from caving in. This calls for clock-work procedure of the entire gang. Welding crews are accustoming themselves to these requirements and are doing their work with speed and efficiency.

Personnel of Welding Crew

The trend in the welding of casing is toward the use of the butt type joint. This calls for the making of a "horizontal" weld which requires a well-trained operator, proper technique and adequate supervision. The majority of welders employed in the welding of casing have had considerable experience and are competent along other lines of work such as the welding of pipe lines, or tanks and boilers, so the problem of training these men to handle the electrode properly in the case of oil well casing is relatively simple. With several days' practice on sections of casing, the welder can acquire the knack of producing a highly satisfactory horizontal butt joint. As part of their training, the welders are usually required to cut coupons from the weld for tensile tests.

Concerning the personnel of the welding crew, a California contractor says, "One of the first requirements of the welder is oil field ex-

TABLE 1—BELL AND SPIGOT TYPE JOINT—GRADES A AND B PIPE

Diameter bell joint	Wall thickness	First bead ⅛" "FW-5" Amps.	First bead ⅛" "FW-5" Volts	Second bead ⅛" "FW-5" Amps	Second bead ⅛" "FW-5" Volts	Welding and cleaning time, 2 welders (*)	Coupled joint time (*)
12"	¼"	325	32-34	325-350	32-34	7 min.	8 min.
14"	¼"	340	30-32	340-350	30-32	8½ min.	9 min.
16"	⅜"	340	30-32	340-350	30-32	9½ min.	9½ min.
18"	⅜"	340	32-34	340-350	32-34	10½ min.	10½ min.
20"	⅜"	350	34-36	350-375	34-36	12 min.	12½ min.
22"	⅜"	350	34-36	350-375	34-36	14 min.	14 min.
24"	⅜"	360	34-36	360-375	34-36	15 min.	15 min.

*See advantages of welded joints. Lower costs result from use of welding.

TABLE 2—PLAIN END—V-BEVEL AND U-BEVEL—GRADE C AND D PIPE

Diameter of joint	Wall thickness	First bead 5/32" Shield-Arc 85/100 Amps.	First bead 5/32" Shield-Arc 85/100 Volts.	Second and third beads 5/16" Shield-Arc 85/100 Amps.	Second and third beads 5/16" Shield-Arc 85/100 Volts	Per 80-ft. casing* Welding time, 3 welders	Per 80-ft. casing* Cooling time per joint	Per 40 ft.† Coupled joint time
5¼"	¼"	175-185	26-28	195-210	30-32	4½ min.	1 min.	4 min.
5¾"	¼"	180-185	26-28	200-210	30-32	4½ min.	1½ min.	4 min.
6"	⅜"	180-185	26-28	200-215	32-34	4½ min.	1½ min.	4 min.
6⅝"	⅜"	185-190	28-30	215-220	32-34	4½ min.	1½ min.	4 min.
7"	⅜"	185-190	28-30	220-225	32-34	4½ min.	2½ min.	4 min.
7⅝"	⅜"	185-190	28-30	220-225	34-36	5 min.	2½ min.	4½ min.
8"	⅜"	190-195	30-32	225-230	34-36	5½ min.	2½ min.	4½ min.
8⅝"	⅜"	190-210	30-32	225-230	34-36	5½ min.	2½ min.	4¾ min.
9"	⅜"	200-210	30-32	230-235	36-38	5½ min.	2½ min.	5¾ min.
9⅝"	⅜"	200-210	32-34	230-235	36-38	6 min.	2½ min.	5¾ min.
10"	⅜"	200-210	32-34	235-240	36-38	6½ min.	2½ min.	6 min.
10⅝"	⅜"	200-215	32-34	235-240	38-40	6½ min.	2½ min.	6 min.
11⅜"	⅜"	210-215	32-34	235-240	38-40	6½ min.	2½ min.	6 min.

*Welding speeds given are based on the use of the "rathole" method (see paragraph "Plain End Type V Bevel Joint"). This makes possible the lowering of 80 feet of casing in the time shown (welding time plus cooling time), cutting the setting time approximately 33⅓ per cent. †These speeds are based on the lowering of 40 feet of casing at a time.

perience. Oil field workers have a language all their own, and you and all your men had better speak it. And don't feel that this is only to humor a stubborn driller, either, for things can happen very fast around an oil rig and your crew has to know what the crew is talking about. They have conditions to meet which are peculiar to their business and a welder who doesn't know what it is about can be a real handicap."

Grades of Casing

Different grades of casing have different degrees of weldability, which varies inversely with the carbon content of the steel. This factor, therefore, affects the welding procedure and the type of joint to be used.

Grades "A" and "B" are used in the larger diameters for the surface strings of casing. Carbon content of this pipe is relatively low, hence it is easily welded. Tensile strength of this casing is 55,000 to 65,000 pounds per square inch.

Grades "C" and "D" casing have high collapse resistance qualities and are therefore used in the deep, inside strings. The carbon content of this type is usually more than 0.35 per cent and it therefore requires skill and supervision in welding. Grade "C" has tensile strength of not less than 75,000 pounds per square inch, and yield point of not less than 45,000 pounds per square inch. Grade "D" tensile is 95,000 minimum and yield 55,000.

Bell and Spigot Type Joints

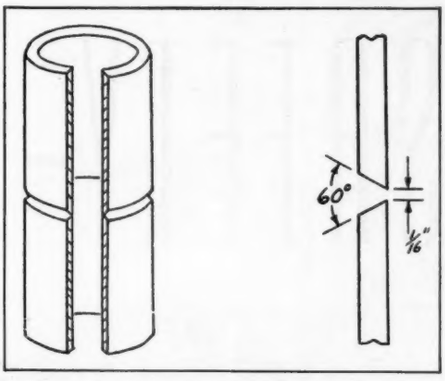
For short surface strings of casing, the bell and spigot joint is generally used. From a design standpoint, this type of joint, a lap joint, is not as strong as the plain butt joint, but it can be welded in less time because the weld is made in the down-hand position on the shelf which results from the end of the lower joint with the wall of the upper joint. This type of joint is illustrated below.

Diameters of casing in which bell and spigot types of joints are used range from 12 inches up to as large as 30 inches. Depths of strings range from 100 feet to 1,200 feet and, in some cases, 1,500 feet.

In lining up this type of casing, the first joint is usually plumbed with a straight edge (notched to clear the bell) and a fork, fixed in the derrick frame, is set so that each succeeding joint can be fitted into the fork and thereby made plumbed. With this type of joint large-size electrodes can be used, requiring only two passes or beads. The electrode recommended is "Fleetwood 5" quarter-inch size. The welding procedure recommended by a user in the Mid-Continent field is given in Table 1. This table also includes the welding time per joint and the corresponding time for conventional practice where a screwed joint is used.

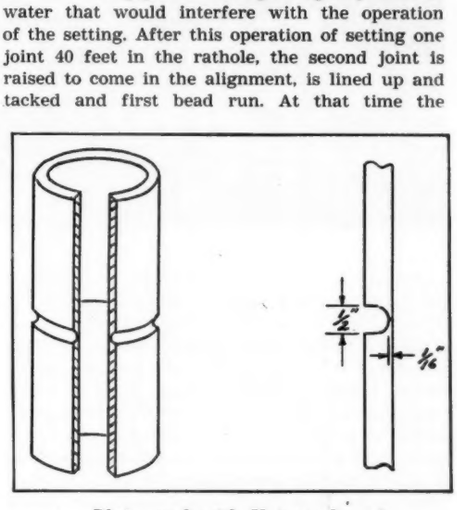
Plain End Type V-Bevel Joint

This type of joint, illustrated here, has been used extensively on Grade "B" tempered, Grade "C" and Grade "E" special welding casing at setting depths up to and including 8,160 feet. Casing diameters have ranged from 5¼ inches up to and including 9⅝ inches.



Plain end V-bevel type. A jib is used to hold the edges a short distance apart for improving the weld

The procedure recommended for running casing with this joint is known as the "rathole" method. The rathole is a hole dug in a corner of the derrick about 8 feet from the rotary. It is about 14 to 16 inches in diameter, 48 feet deep and is usually cased with 12-inch casing with a plate welded on the bottom to make sure the inside of the pipe does not pick up any mud or water that would interfere with the operation of the setting. After this operation of setting one joint 40 feet in the rathole, the second joint is raised to come in the alignment, is lined up and tacked and first bead run. At that time the



Plain end with U type bevel

welders move over to the rotary or where the deep string is to be set and perform the same operation running the first bead. During this time the helpers have cleaned the first bead on the weld being started in the rathole. Then the welders move back to the rathole and proceed to run the second bead while the helpers clean the first bead in the rotary. By this time the welders have completed the second bead joining together the two 40-foot lengths of pipe in the rathole. They move back over to the string going into the well over the rotary table and run the second bead on this weld while the helpers clean the second bead on the weld being made in the rathole.

After welders have completed the second bead on the long string they immediately walk back to the rathole joint and run the third or finished bead and the same rotation follows by the helpers cleaning the second bead on the long string or over the rotary table. At this time the welders go back over to the rotary joint and finish the third bead on the long string.

During the latter operation the driller has pulled the 80-foot string out of the rathole setting it up in the corner of the derrick and has brought in two additional joints of pipe to go through the same operation in the rathole. The instant these two joints of pipe are brought in and are made ready for tacking the weld is completed on the long string and the welders proceed with the operation in the rathole again.

During this operation there has been 2½ to 4 minutes' time elapsed to allow the last weld to cool and be lowered 80 feet into the well Then the 80-foot string that has been completed and set in the derrick is now ready to be lined up and the same process gone through as given above. Thus on an overall time against the old method of running 40 feet of pipe at one time into the well, cuts the setting time down 33⅓ per cent.

Welding procedure and setting time, based on the rathole method, are given in Table 2.

The ends of the casing are lined up with an aligning jib with sufficient pressure on the pipe to make sure of perfect alignment. This jib has a wedge which provides a sixteenth-inch spacing between the butting edges of the pipe.

The casing is tack welded at three or four points equidistant apart. The line-up clamp is then removed for the first bead. This first bead should be so made that it does not extend further than 1/32-inch on the inside of the pipe.

The welding procedure employed by one company in the Mid-Continent field is outlined in Table 2. "Shield-Arc 85" or "Shield-Arc 100" is used, 5/32-inch size, for the first bead and 3/16-inch size for the second and third beads. Welding time, cooling time and the corresponding time for a standard coupled joint are also given.

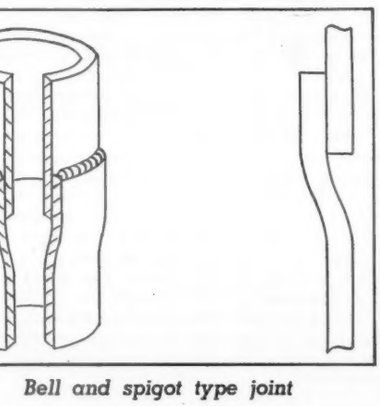
After completion of each bead it is thoroughly cleaned by a chipping gun and then brushed with a wire brush to make sure that all slag has been removed from the weld. The crown of the finished bead should be minimized so as to approach the overall diameter of the casing as near as possible. After completion of the joint it is cleaned off and inspected and, after cooling, the casing is lowered for the next joint.

Plain End Type U Bevel Joint

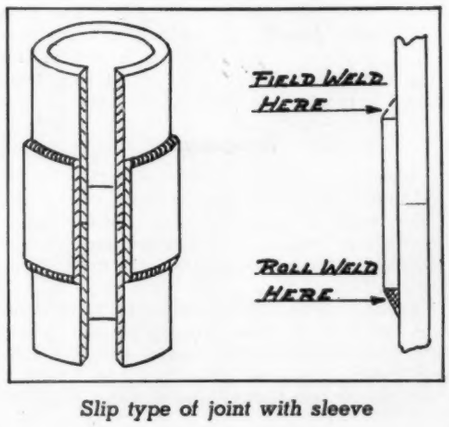
This type of joint has proven highly satisfactory as a supplement to the V bevel joint in running deep strings. This joint, illustrated below, allows an easy manipulation of the electrode. It has the advantage of insuring 100 per cent fusion and provides a narrow weld which is beneficial. The welding procedure and speed are practically the same as for the V bevel joint.

Slip Type Joint

This type of joint, used more extensively in the California field, embodies a sleeve connection. The sleeve is rolled and welded from high-tensile steel plate and is put on one end of the



Bell and spigot type joint



Slip type of joint with sleeve

casing in a fabricating yard. Then in the field, a lapweld completes the joint. One contractor recommends the use of a quarter-inch or five-sixteenth inch electrode with current as high as 350 amps.

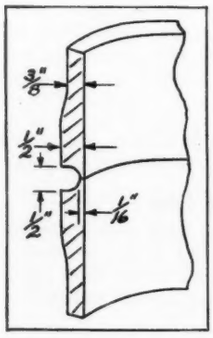
With this type of joint one contractor claims speeds such as: On 10 jobs of 11¾-inch casing, a total of 7,716 feet, 193 joints were run in 16 hours, or five minutes per joint, or 500 feet per hour. On 13⅜-inch casing, speed averaged 5½ minutes per joint. This is total elapsed time, including lowering the completed joint, bringing in the next joint from the pipe rack, picking it up in the derrick, stabbing it and welding it.

Handling the Casing

In running butt welded casing, the handling procedure differs somewhat from that used in running threaded and coupled casing. In the latter, a joint is picked up from the walk and brought into the derrick by simply putting a slip noose under the coupling. This is not considered safe in the case of plain-end casing. For this reason a "pick up" clamp is usually employed so as to take a firm hold on the end of the casing. This clamp is hinged in the middle and is tightened by means of a threaded toggle. The inner surface of the clamp is grooved and filled with babbitt, providing good friction against the steel pipe when the clamp is tightened up.

In handling bell and spigot casing, the conventional practice can be used, i.e., using a slip noose under the belled end of the casing. When running butt welded casing a slip-type elevator is generally used. This type of elevator can also be used for running belled end pipe; however, a special elevator similar to the regular collar elevator would be more desirable. The proper type of floor spider is one in which the slips set themselves automatically and simultaneously by the release of a lever from which they are suspended. Using this type of spider in conjunction with the slip type elevator adequately holds end pipe. The teeth in the slips of the elevators and spider should be inspected regularly and kept sharp and in good working condition.

In California a contractor makes it a practice of prefabricating the casing into 80-foot lengths on the racks at the manufacturer's yard. The joints are roll-welded, affording high-speed production. Like the rathole method, this quickens the field job a great deal.



Upset U-bevel

Another type of joint which is in the experimental stage is that illustrated (left). This is known as the upset U-bevel joint. The wall thickness at the joint is one-eighth inch more than that elsewhere in the pipe. This type of joint is said to provide 100 per cent efficiency.

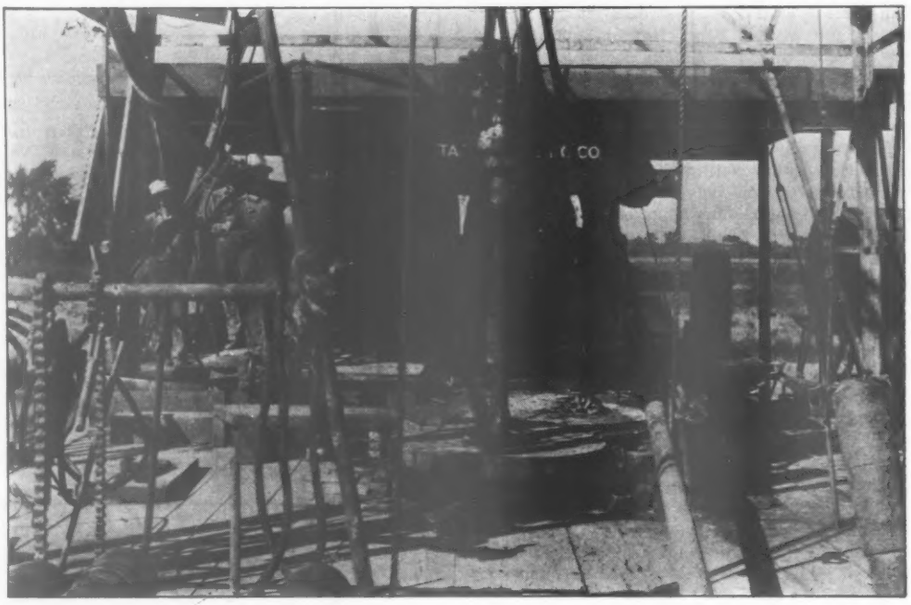
Equipment

Welding equipment consists of engine driven welders of 300 or 400 amp. capacity with accessories such as cable, electrode holders, headshields and goggles, and shielded arc welding electrodes of the type required for the particular job.

Cutting torches should also be on hand to be used in case the hole caves in or the casing sticks in order to cut the welded string in pulling it out.

A testing lamp should be provided to make sure no explosive gas mixtures are present on the derrick floor, in the cellar or within the casing itself. The driller should be responsible for providing safe welding conditions.

SAFETY— Rathole Cover May Eliminate Fall



When the rathole pipe does not extend above the floor, most drilling crews make a cover for it when it is not in use. A practical method is shown at the left in the accompanying photograph. This is made of two short lengths of 3-inch by 12-inch timber, nailed together. A handle made of 1-inch rope allows it to be conveniently lifted. Some crews make the rathole cover to fit into the hole in the floor, making a smooth surface. Where the rathole is close to the floor but not below it, a plug is sometimes made to fit to prevent hand tools from bouncing into it. Severe injuries to legs and back are frequently caused by stepping into holes in the floor and most crews consider it to their advantage to cover as many as possible.

The end of the drum shaft which projects out on the right center of the picture is amply protected by a guard and the possibilities of a man becoming fouled in it are removed. The rotary chain is also well protected with a steel guard.

The drillers on this rig solved the problem of spinning lines rubbing on their backs and at the same time protected themselves from being hit in the face in case a line broke or became fouled on the cathead. This was accomplished by installing the vertical roller which is fastened to the floor on one end and to the V-braces on the head-board on the other. This particular type of rig is built so compact that it allows no space for the driller while spinning up or tonging pipe unless some modifications are installed.

Both the lead tongs and the back-up tongs are held out of the way while not in use by 1-inch pipe driven into the floor with a hook in the top. They can be released when needed. The crew has also made a hanger for the chain tongs from 2-inch pipe. This is seen in the left foreground.

Floodlights provide plenty of light when needed. The safety chain from hose to swivel and the hobble on the elevators are also seen in this picture.

Unusual Demand Unbalances Alberta Refinery Situation

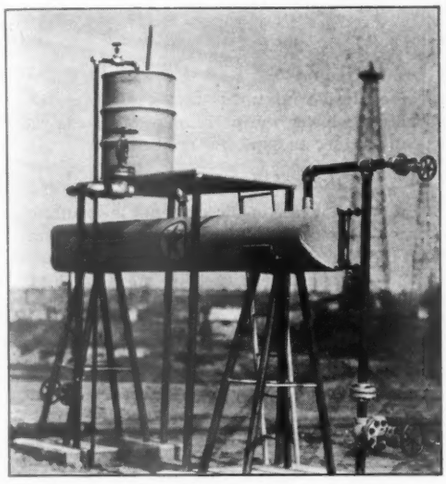
CALGARY, Alberta, Canada, Aug. 29. — An unexpectedly heavy demand for gas and oil from the prairie provinces has brought about a difficult situation for the Alberta refining industry. With an oversupply of crude, necessitating proration, the refiners have discovered their facilities hardly equal to the sudden demand for gasoline and oil.

British American Oil Co., which will shortly start constructing a large modern refinery at East Calgary, to be in operation early next year, has, as a temporary measure, put the old Bell Refining Co. plant with 800 bbls. daily capacity in operation. At the same time a skeleton crew has been sent to the company's refinery at Coutts, which discontinued operations several months ago, and should a definite shortage develop this plant will likely be operated.

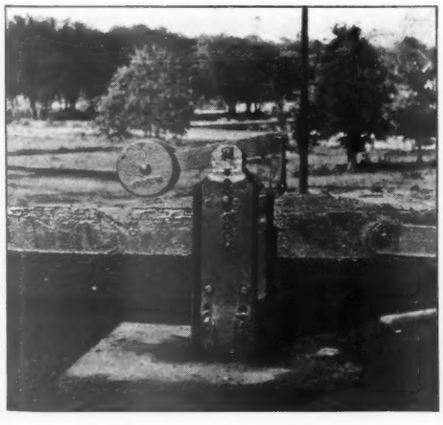
Some difficulty has arisen in connection with the crude supply for independent refiners. Most of the Turner Valley operators are under contract to Imperial Oil, Ltd., or the British American Oil Co. for their output, subject to the prevailing proration, and the latter companies have been charging a premium of 2½ cents a barrel over the field price of crude when reselling to other plants. Gas & Oil Products, Ltd., operating a plant in South Turner Valley, with a market for 2,000 bbls. daily, took exception to the premium; but the dispute was adjusted through the intervention of the Alberta Petroleum Producers Association.

OPERATING IDEAS

Steam Heated Mixer

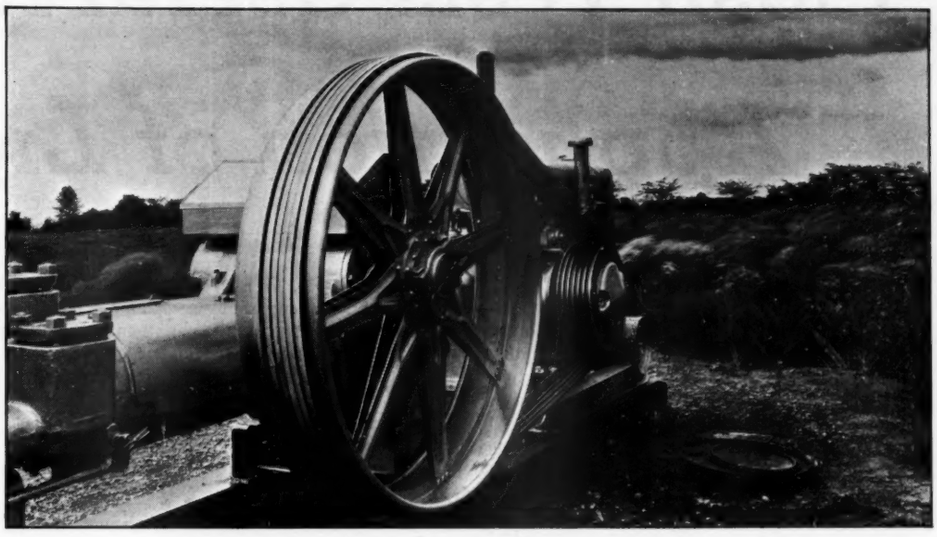


The unusual treating plant shown here is in use in the St. Louis, Oklahoma, field. Due to the fact that this particular well has been difficult to treat out, the operator has designed a chamber wherein the chemicals are mixed with live steam. The mixed chemicals then flow to the oil line between the well and the separator. This process has proved to treat out the oil better than when applying the same chemicals to the oil in the cold state.



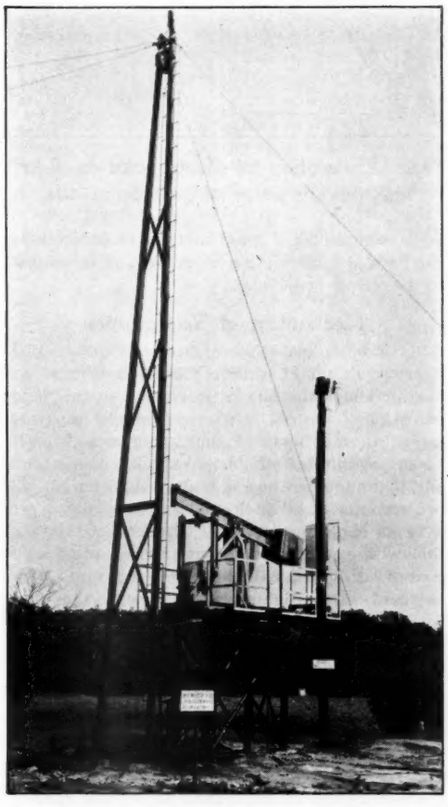
Novel Knock-Off Block

This simple and effective knock-off block is in service with a large operator in the Ada, Okla., field. It is constructed of two pieces of channel iron which serves as the base with the knock-off level on top, held in the clear by weight. When the operator wants to disconnect a well, he merely lifts up the weight, allows the level to drop into the slot for the disconnection with the power source.



Wide, Flat Flywheel for V-Belt Drive

This pumping unit on a gathering line in the Illinois fields uses a wide, flat, second-hand pulley on the pump with a V-belt; the pulley on the engine is grooved. The extra width of the pulley, it is claimed, is ample to insure that the belt will not slip off. Welded to the top of the pump is a tool box containing tools needed for repairs. This box can be locked.

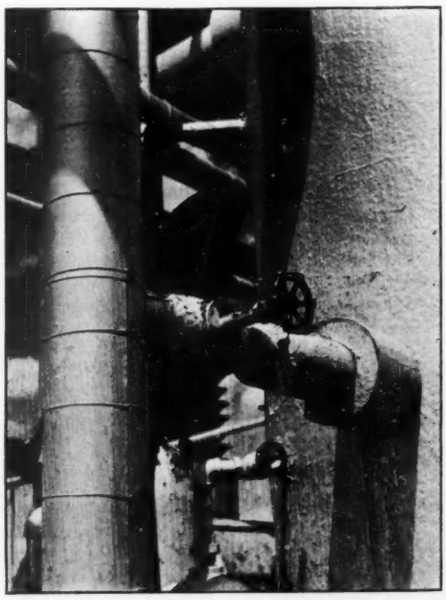


Elevated Pumping Unit

In the Lincoln County field near Stroud, Okla., one operator finds it necessary to erect 16-foot substructures for all pumping units. These wells are in a swampy district which overflows several times during the season. Twice during the summer the pumper was unable to reach the well. These units are electrically powered and they can be turned on and off without the pumper needing to visit each well individually.

Valve Indicator

An arm extending from the handle of the valve controlling the steam agitating line moves a hand which indicates the amount of opening. Two stiff wires are connected to the stem that operates the hand which in turn indicates position of the valve setting.



Flash Tests Useful for Judging Application of Light Oils

By W. L. NELSON

The original reason for developing the flash and fire tests was as a protection against fire hazard. Thus, the flash test indicates the temperature at which an explosive mixture is produced above an oil, particularly in closed or semiclosed vessels, and the fire test indicates the temperature at which a flame will be continuously maintained by vaporization from the oil. However, the value of these tests and the specifications maintained by oil companies and by law, lies mainly in the fixing of safe handling temperatures in the minds of those who handle the products. Most people realize that gasoline and many solvent materials will flash or burn at room temperature and hence they govern themselves accordingly—or that burning oils and distilled fuel oils are also dangerous and may flash at temperatures exceeding 110° F. Thus, by a continual repetition of flashpoints and firepoints, caution becomes inborn among laymen and those who market inflammable oils, and constitutes the only real insurance against fire hazard.

Like so many routine tests, the flash and fire tests are also used for control and identification purposes, and when used in this manner they have no significance at all except to the refiner or jobber. Nevertheless, these tests are usually included in lubricating oil specifications and have in some cases assumed an importance that is unwarranted. The flashpoint of lubricating oils and even most viscous fuel oils is so high that the danger from explosives or fire is almost negligible. Likewise, a reasonably low flashpoint on lubricating oils is of no significance from an engine-operation standpoint unless it is so low that it indicates contamination during manufacture. For these reasons, the flash and fire tests should be granted no significance from the standpoint of specifications for the use of the public except when applied to the light oils that can constitute a fire hazard.

Flashpoint of Lubricating Oils

Although the flashpoint is of little value as a service test for lubricants, it has proven to be of considerable value to refiners in classifying and identifying oils. In general the lubricating oils and residual fuel oils are so high-boiling that no simple methods of distilling them are available and hence the flash and fire tests are used as a general indication of boiling range or volatility. The paraffin base oils have a high-boiling range whereas the naphthene base oils of the same viscosity have a low-boiling range. These relations are approximately as shown in Table 1.

TABLE 1—BOILING POINTS OF OILS FROM DIFFERENT CRUDE OILS, °F.

	150 Viscosity— At 100° F.	At 210° F.
Paraffin base lubes	830	1,070
Mixed base lubes	765	1,000
Naphthene base lubes	715	880

These figures indicate that the flashpoint can vary by more than 120° F. for the several bases of crude oils if oils of equal viscosity are compared. This is a somewhat larger variation than is usually evident but the apparent discrepancy is partly explained by the fact that the naphthenic lubricating oils are usually marketed at a higher viscosity than the corresponding paraffinic oils. Thus, flashpoint constitutes a rapid method of determining the base of a lubricating oil stock, and is valuable to the refiner or jobber.

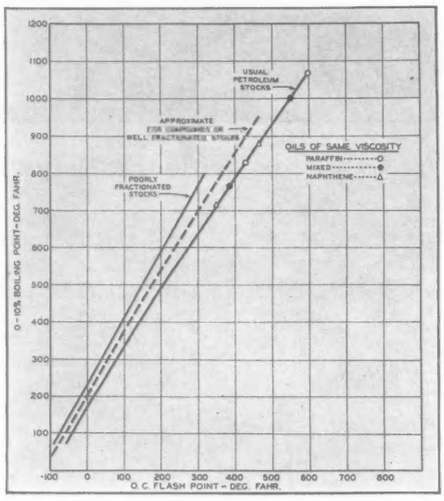


Fig. 1. Relation of flash point to 0-10% distillation point of petroleum oils

Mechanism of Vaporization

If an oil is heated in an absolutely quiet atmosphere it will tend to project molecules of itself into the air above the oil, in proportion to the vapor pressure of the oil. This condition is nearly attained in many closed tanks and vessels. The vapor pressure of oils increases with temperature and if the temperature is high enough the oil will project enough oil molecules into the air to produce an explosive mixture. The leanest mixtures that will explode contain only a fraction of a per cent of oil vapor for the heavy oils and up to 1 or 2 per cent for the lightest oils and hence the vapor pressures that oils must exhibit in order to produce explosive mixtures is in the range of 1 to 20 millimeters being 1 millimeter (1/760 atmosphere or .13 per cent) for lubricating oils and up to about 20 millimeters (2.65 per cent) for light hydrocarbons. These generalizations are given in Table 2.

These results are in accordance with our knowledge of explosive mixtures—that the larger the molecules the lower the percentage of oil-gas required to produce an explosive mixture.

TABLE 2—VAPOR PRESSURES AT WHICH FLASH OCCURS

	Boiling point or near initial point	Temp. for flash, °F.	Vapor pressure at temp. mm.	Percentage of vapor in air	Lower explosive limits, per cent
Propane	—44	—153	18	2.4	2.4
Pentane	97	—57	9	1.2	1.4
Gasoline	120	—30	10	1.3	1.4
Kerosene	400	130	2	0.26	...
Distillate	460	170	1.7	0.22	...
Light lubes	740	380	1.1	0.14	...
Heavy lubes	930	520	0.7	0.09	...

Effect of Air Currents

The obvious effect of air currents is to dilute the gases that issue from the surface of the oil and prevent the formation of explosive mixtures. Thus, the open cup instrument such as the Tagliabue, Cleveland and Marcusson instruments give higher flashpoints than the closed testers such as the Tag, Abel and Pensky-Martens. In the case of lubricating oils, the flashpoint by the Pensky-Martens tester is 10° F. or more, lower than by the Cleveland tester. If a breeze blows across the surface of the oil, it is difficult to cause flash to occur, and if a deliberate breeze is blown across the surface of the oil, flash does not occur until a temperature near the boiling range of the oil is attained. The same general condition is accomplished by spreading the oil in a thin layer or film so that a small amount of oil must supply vapor to a relatively large amount of air. This fact is illustrated by the following tests on the inflammability of oil films exposed on the surface of water at 75° F.

Material—	Film thickness (inches)	Time burned (seconds)	Time exposed (minutes)
Gasoline, 64 A.P.I.	0.0037	None	9
Gasoline, 64 A.P.I.	0.015	55	9
Naphtha, 52.7 A.P.I.	0.0065	None (but flashed)	1

Another indication of the effect of exposing the oil to a large volume of air is the impotence of oil films after being exposed to air for a few minutes. This effect is illustrated below for a 64 A.P.I. gasoline.

Time exposed before lighting, minutes	Film thickness	Time burned, seconds
2	0.0037	10
3	0.0037	1.5–10
6	0.0037	None
9	0.015	55
18	0.015	49
25	0.015	None

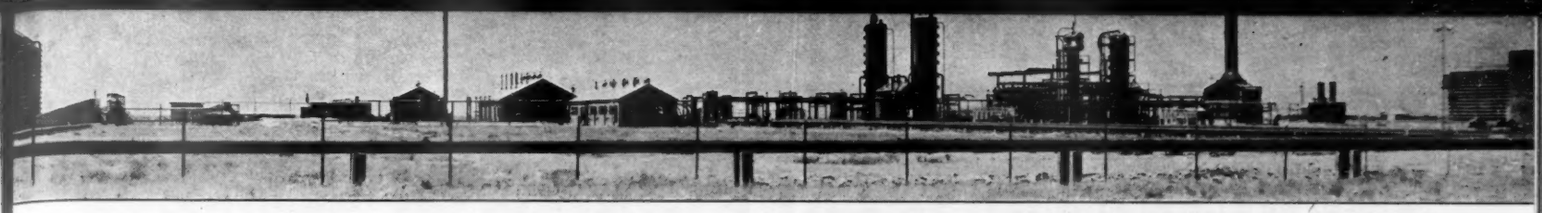
Flashpoint of Typical Stocks

The flashpoints that may be expected for various petroleum stocks are indicated in Table 3 and Figure 1. The flashpoint is greatly affected by degree of fractionation and hence no specific values can be given. Likewise, the flashpoint for lubricants from the different bases of crude oil have different viscosities. These general effects are indicated in Figure 1 and Table 1.

TABLE 3—FLASH RANGE OF FRACTIONATED PETROLEUM STOCKS

	Temperatures at 0 to 10 per cent, F.°	A.P.I. gravity	Flash range, °F.
Pentane	97	...	—57
Gasoline	70-100	57-62	—57 to —10
Naphthas	160-300	50-66	20-110
Kerosene	360-400	40-44	110-140
Distillate—domestic	400-440	36-42	110-190
Distillate—industrial	440-550	26-35	175-240
Fuel oils—black*	400-500	8-14	*150-200
Light lubes	680-820	22-30	320-400
Heavy lubes	760-900	20-27	360-450
Transmission oil	880-1000	18-23	440-515
Cylinder stock	1070 plus	19-24	550-650
Asphalts	†1150 plus	7-11	†700 plus

*Not well—fractionated. †Approximate—decomposition occurring.



Phillips Petroleum Co.'s 35,000,000-foot natural gasoline plant in Goldsmith field of Texas

Goldsmith Gas-Oil Ratio Down Result of Better Completions

By D. H. STORMONT

Developments in the Goldsmith field of Texas, since its discovery in June, 1935, have proceeded at a much slower rate than those obtained in most fields. Drilling has been carried on in a very orderly and conservative manner. At no time has there been more than 60 active wells in the field, and that was during June and July of 1937, at which time the activities of the whole oil industry were at their height. At present there are 22 wells drilling, five active operations and five locations. Completions have been running in the neghborhood of 30 per month for the past several weeks. There are now 519 producers in the field.

Of the outstanding recent developments in the field, one of the most important is the great strides being made in reducing gas-oil ratios, brought about through more careful well completion methods and the reworking of wells having too high a ratio. As is shown in the following table, the average gas-oil ratio of the field has declined over 50 per cent in the past year, the figures being based on tests made on certain key wells in the field:

Date of test—	No. of wells	Gas-oil ratio (cu.ft/bbl.)
April, 1937	69	5,638
August, 1937	186	4,491
November-December, 1937	331	2,400
April, 1938	430	2,202

Since conservation of gas is primarily the field's most important problem, this downward trend in ratios is watched with great interest.

Quarterly Reports

Importance of the gas-oil ratio control in West Texas is further emphasized by steps taken by the railroad commission. The commission now requires that quarterly surveys be made by its engineering department on all producing fields in West Texas. The injection of the gas limit factor in the allocation formula of most West Texas fields definitely presents the producing gas-oil ratios as a function of daily allowables, payouts in investment, lifting costs and ultimate recovery. Operators have shown a decided willingness to cooperate in the programs. As a result, great progress has been made in the technique of completion practices. Results of this work in the Goldsmith field is shown by the fact that the percentage of wells reported with ratios in excess of the set gas-oil ratio is much lower than most West Texas fields.

The Goldsmith Engineering Committee, composed of all operators in the field with E. A. Wahlstrom of Midland serving as chairman, is responsible for much of the progress made. Drilling and production practices which some one operator has found to result in monetary savings or a higher recovery of oil are made known to other committee members. It is largely through such action that steady progress is being maintained.

In connection with the work being done to lower the gas-oil ratios most operators now set pipe low enough when completing their wells to eliminate the necessity of having to do any remedial work. The gas, oil and water contacts are fairly well established throughout the field so that it is common practice to penetrate reasonably well into the pay zone, except in cases where wells are known to be out of the free-gas zones, without danger of encountering bottom water or acidizing into bottom water.

Goldsmith operators, generally, feel that the most effective work and greater benefits follow correct completion practices which afford efficient ratios, rather than attempt reconditioning at a later time in the well's life. The percentage of recovery that may be expected ultimately in a gas-drive field of this type is usually seriously limited because the natural energy is spent before all the available oil is moved into the well bore. Thus by employing efficient completion methods, operators are increasing the recovery, utilizing the gas for gas lift operations that otherwise might be dissipated, and in addition, doing away with the necessity of having to rework their wells.

Use Drilling Time Curves

Use of drilling time curves has become fairly widespread in this field and many operators take advantage of the knowledge gained regarding a formation's characteristics to seat the casing point in a hard shell, if present. Drilling time is also used to determine the total depths of wells as it is believed that there is a definite advantage in stopping wells on shells.

Since it is difficult to recover cores from the more porous formations, drilling time is being used by many operators to pick the point where packers and liners should be installed to secure lower gas-oil ratios in doing remedial work. Only fair success is obtained from most plug-back jobs and it has been found, due to the porous nature of the reservoir, that best results are gained by pumping in plugging material until it comes up the hole to a hard shell. It has also been found that by seating the packers on shells separating the oil and gas horizons better results were obtained.

At present operators are not faced with serious lifting problems as there is sufficient gas dissolved in the oil to flow most of the wells. Gas-lift equipment is used on a wide scale in the field and at many wells pumping equipment is being replaced by gas lift. In later years of the pool's life, when there is not sufficient gas in the oil formation to lift the oil, perforations of the pipe opposite the gas-bearing horizons can be utilized to furnish energy for lifting the oil.

Study Formations

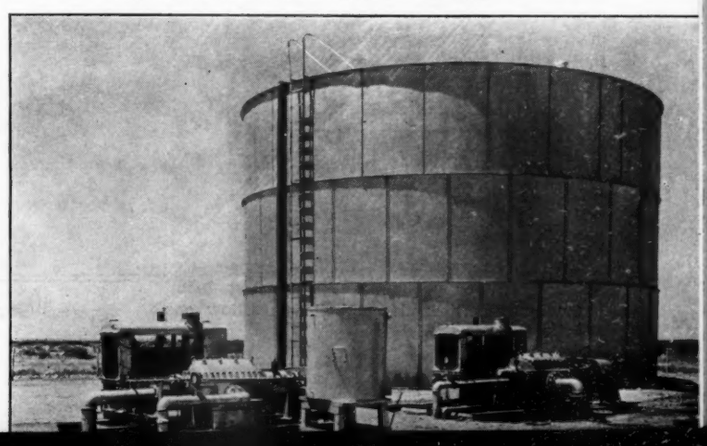
Much work has been done in perfecting the technique of acid treating and close studies are usually made of the reservoir formations before attempting to acidize.

Some Goldsmith operators exhaust all possibilities of acid treatment before resorting to shooting their wells, feeling that shooting limits the possibilities of corrective work in event of high gas ratios or water encroachment. From a study of available data it is believed acid stimulates production as well as shooting, outside of a few wells where it is necessary to shoot to obtain commercial production. Acidizing has increased the gas-oil ratio of several wells; however, in every case where oil has been pumped down the annular space while acidizing through the tubing, there has been no increase in the ratio.

Best results with acid are being obtained with two-stage, two-pump treatments, using 1,000 to 2,000 gallons for the first stage and 3,000 to 4,000 gallons for the second stage. As stated above, the oil is pumped down the annular space during treatment to confine the acid to the pay section. thus eliminating the possibility of the acid going into the upper gas-bearing parts of the pay.

One method of acid treatment tried on a high-ratio well proved very successful in lowering the ratio. Instead of loading the hole and pumping in acid as is usually done, the casing was merely closed in but the hole not loaded. Enough acid was then pumped in to cover the face of the pay, in this case 126 gallons. This shot was allowed to stay on the face of the pay for 15 minutes and then swabbed out. During treatment, casing pressure was 1,225 pounds and tubing pressure 150 pounds.

Lease-flow station in Goldsmith field



On the second stage the acid volume was increased to 378 gallons. This was pumped into the formation slowly at a tubing pressure less than 150 pounds. This was necessary as treating the acid at too fast a rate would build up the pressure so high that control of the acid would be lost. Thus by pumping the acid in at a slow rate it is allowed to increase the permeability immediately around the bore hole before going into the formation.

This second acid shot was also allowed to stay in the formation 15 minutes and then swabbed out. A last stage of 756 gallons was pumped in also at a tubing pressure less than 150 pounds and swabbed out after 15 minutes. This made a total of 1,260 gallons used.

Before acidizing, the well flowed at a rate of 1,344 bbls. per day with 15,000,000 feet of gas or a ratio of 11,161 cubic feet per barrel. After acid, the well flowed at a potential rate of 2,046 bbls. per day with a gas volume of 14,147 cubic feet and a ratio of 6,908. This was an increase of 523 per cent in potential and a decrease in ratio of 4,253 cubic feet per barrel. On a retest through 2-inch tubing with perforation on bottom, the well flowed at the rate of 1,175 bbls. per day with a ratio of 2,630. This would indicate that a fluid seal was set up above the perforations. The treatment described above, taken from a monthly report of the Goldsmith Engineering Committee, has been found especially applicable to high-ratio wells where it is desired to treat only the lower or oil pay, thereby obtaining an increase in oil with a resulting decrease in gas-oil ratio.

The reservoir rock in the Goldsmith pool is dolomitic limestone divided into two zones covering a stratagraphic thickness of some 250 feet. The upper pay is white crystalline and the lower a brown anhydritic zone. The white zone is more porous and permeable than the brown anhydrite though oil is found in both zones.

No Mud Problems

No serious drilling problems or mud problems are encountered, except in some sections of the field the Yates sand, encountered at 2,750-2,800 feet contains some high-pressure gas that occasionally causes blowouts. Most drilling-in is done with rotaries, using either oil, mud or clear water. However, in the low-pressure section (the Cummins area) practically all drilling-in is done with cable tools. In drilling the pay, operators are fairly well divided in the practices of running drill steam tests and in coring ahead.

As in most limestone reservoirs, wells in the Goldsmith field show wide variations in potentials due to the great variance in permeability and porosity. Well potentials are determined by multiplying the volume produced in the last six hours of a 12-hour test by four. Field allowables are distributed among the wells on a basis of 50 per cent potential and 50 per cent acreage. Only some 32 wells are producing water at the present time, and of these only three make over 25 per cent.

Practically all derricks are skidded intact to adjoining locations upon the completion of a well due to the level surface of the field. This allows operators to realize a savings in the expense of dismantling and erecting. It also makes for rapid drilling time as it is not uncommon for a 4,200-foot well to be drilled, setting two strings of pipe, in 16 days including all moving time.

WEST TEXAS PLANTS

(Continued from Page 33)

them free of liquid and to obtain a nominal production of oil from them. One is being bailed periodically to remove salt water accumulation so the well can produce gas.

In the Sibley pool two wells are also being pumped regularly and one bailed to allow gas production. In the Hightower pool two wells with a daily output of 30 bbls. are being pumped regularly. Main reason for this relatively high production is that the wells were recently acidized. In the Chastain pool two wells, one a fairly recent completion, are producing about 73 bbls. daily of which some 70 bbls. is being accounted for by a new well.

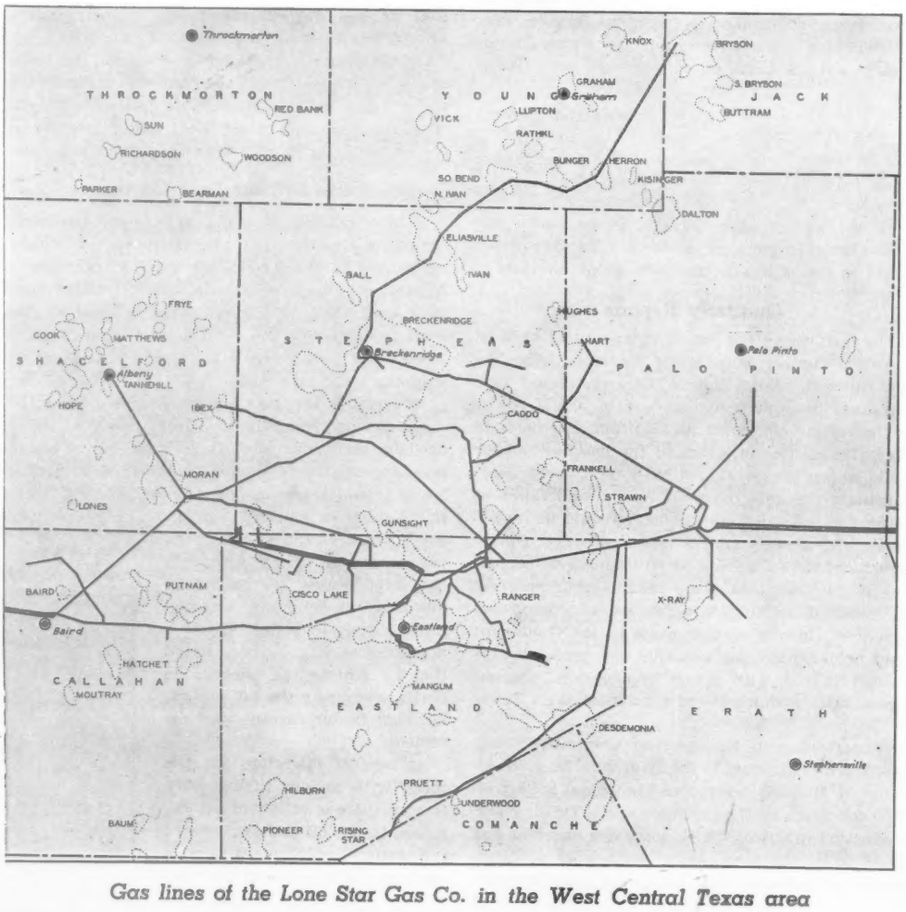
Thus it may be seen that of the wells connected to the plant, only a few would be left unplugged if there was no outlet for the casinghead gas. Also if there was no large gathering system for disposing of the plant residue gas, such as is offered by that of the Lone Star Gas Co., most of the wells would not be of commercial value. As it is, the operators are reworking their wells periodically to allow for better gas production and the total ultimate recovery from their leases is being increased. Also, as has been pointed out, the operators are becoming more aware of the value of recycling gas and in recent months have adopted repressuring on a much wider scale which will act to prolong the life of some wells for years to come.

TABLE 1—GASOLINE PLANTS OPERATING IN WEST CENTRAL TEXAS

Company and plant location—	Gas capacity (m.c.f.)	Oil well connections	Gas well connections
Anzac Oil Corp., Overall lease, Coleman County	600	10	1
Arab Gasoline Corp., Hise	1,000	54	4
Consolidated Gasoline Co., Martin	10,000	23	7
Desdemona Gasoline Co., Eastland County	1,000	7	....
Graham Oil & Gas Co., Graham	3,000	13	....
Hanlon Gasoline Co., south of Breckenridge	14,500	148	22
Harper Gasoline Co., Bryson	1,000	10	....
Humble Oil & Refining Co., Rising Star	2,700	131	....
Lone Star Gasoline Co., Eastland	6,000	17	16
Lone Star Gasoline Co., Ranger	30,000	179	15
Lone Star Gasoline Co., Breckenridge	12,000	172	5
Magnolia Petroleum Co., Olden	16,000	23	....
Magnolia Petroleum Co., Desdemona	1,400	25	....
Mockley Petroleum Co., Fry	2,000	147	....
Ohio Oil Co., Eliasville	5,000	53	....
Ohio Oil Co., Eliasville	3,500	20	....
Phillips Petroleum Co., South Bend	5,000	120	....
Phillips Petroleum Co., Pioneer	7,500	56	1
Phillips Petroleum Co., Ibex	7,500	15	18
Phillips Petroleum Co., Eliasville	15,000	58	....
Phillips Petroleum Co., Hohertz	2,000	99	....
Phillips Petroleum Co., Frankell	7,500	50	4
Phillips Petroleum Co., Herron City	7,500	46	....
Roeser & Pendleton, Inc., Cook	6,000	287	2
Roeser & Pendleton, Inc., Bluff Creek	6,000	150	....
Rudco Oil & Gas Co., Desdemona	800	34	....
Texas Pacific Coal & Oil Co., Caddo	10,000	....	18
Texas Pacific Coal & Oil Co., Strawn	5,000	11	....
Total	189,500	1,958	113

TABLE 2—COMPARISON OF OPERATIONS END OF JANUARY AND JUNE, 1938

	January	June
Number oil wells connected	2,057	1,958
Number gas wells connected	92	113
Total wells connected	2,149	2,071
Production, M.C.F. per day:		
Casinghead gas	81,991	78,146
Dry sweet gas	16,407	12,238
Dry sour gas	650	662
Total gas	99,048	91,046
Utilization, M.C.F. per day:		
Extraction loss	9,956	10,667
Plant, lease, drilling	26,613	24,561
Gas lift and repressuring	5,262	6,046
Carbon black	12,162	12,997
Pipe line	42,560	27,906
Vented to air	2,495	8,869
Gasoline production, in gals. per day	247,481	261,692



Gas lines of the Lone Star Gas Co. in the West Central Texas area

Sound Waves Used to Take Potential

By L. G. E. BIGNELL

Everyone is fascinated by an echo. It is a natural phenomenon which has probably puzzled man from time immemorial. And now the technician has put the echo to work in the oil fields. It is a new means for determining fluid level in oil wells. By producing the well at varying rates and noting the corresponding fluid levels it is possible to arrive at the capacity of some wells to produce.

The dictionary definition of "echo" is, "repetition of a sound, caused by the reflection of the sound waves." The Echo-Meter is an electrically operated recorder developed by Dr. D. D. Taylor and R. E. Martin under the technical direction of Dr. J. J. Jakosky, of International Geophysics, Inc., Los Angeles, Calif.

The electrical part of the instrument consists essentially of a special microphone, vacuum tube amplifier, specially designed filters, and a direct-writing recorder giving an ink record of the reflected sound waves in the well without any of the delays incurred by photographic recording.

Mechanical Equipment

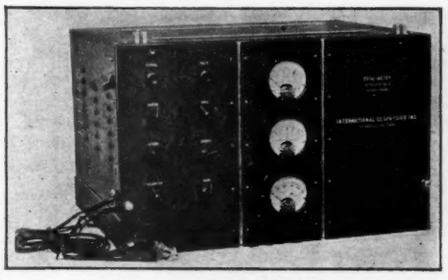
The mechanical part of the equipment consists of the casinghead unit which contains the microphone, a special cartridge discharge chamber for creating a steep-front sound wave, valves and a gauge to show the gas pressure at the casinghead. The sound apparatus and microphone unit is connected to the casing. A shielded cable connects the microphone with the recording equipment in the truck.

The well is allowed to stand for a reasonable time before a test is made to establish a static condition. A cartridge is inserted in a holder at the well head and discharged. The well is shut in by a quick opening valve and the sound wave generated by the explosion of the special cartridge travels downward in the annular space between tubing and casing. A portion of this wave is reflected upward by each obstruction in the annular space such as tubing collars, liner tops, tubing catchers and the fluid surface. This reflected wave is recorded by a direct-writing recorder.

The recording paper is a continuously moving tape passing under a stylus pen which writes the reflections as they are picked up by the microphone. As the sound wave travels down the annular space each tubing collar reflects a small portion of the initial wave; the tubing catcher, if it is exposed, will reflect another portion but of greater amplitude than the tubing collars and when the wave hits the fluid surface practically the whole wave is reflected. A second, third and sometimes several sets of complete waves can be recorded from one shot due to the re-echo effect or reflections between the casinghead and the fluid.

Having established the static fluid level in the well the next step in the test is to pump or produce the well by other means at a constant rate. As the well is produced the fluid level in the annular space between tubing and casing will be drawn down if the rate of production exceeds the rate at which fluid enters the bore hole.

After producing the well for a time a second test is made using the Echo-Meter eqquipment This will determine the new fluid level, or the level while producing. A third test must be made after continued pumping at the same rate to be certain the fluid has been drawn down to equilibrium level, that is, has been drawn down as far as it will fall at the given production rate. The volume of fluid produced in the given time interval can be ascertained by carefully gauging the lease tanks into which the production has been delivered. Production rate is barrels of production divided by time.



Direct-writing recorder device used with sound wave system

Having determined the production rate and the difference in fluid level created at this rate, the next step in the test is to increase pumping speed and pump steadily until the fluid level in the well remains at a new constant depth below the top of the casing. When such a condition has been set up it is evident the well is making fluid at the same rate at which it is being produced. Production rates are plotted against drawdown by projecting the curve to the point where there would be no fluid in the well and in this manner the well's potential to produce can be estimated.

There are several factors to be considered in making such tests. Gas affects the rate of travel of the sound waves but this does not necessarily impair the individual record because the echo velocity for each test is determined from the collar echoes. Escaping gas will also tend to break up the surface of the fluid. This foamy surface acts as a cushion and instead of reflecting the sound wave will absorb it in part or entirely. In some very few instances no record is obtained.

There is a demand for satisfactory methods of taking well potentials in the several states wherein the permissible rate of production is limited by the potential of the well. It has been suggested that the Echo-Meter be used for the purpose of determining potentials of the wells in various pools or fields. It is common practice for the state regulatory body to permit the operators in a pool to agree upon potential taking methods just so long as the methods proposed are fair to other producers in the state. It is possible the Echo-Meter may be used in some pools in Kansas where it has been tested on a number of leases. Results obtained were satisfactory in practically all wells and the instrument has proven suitable for determining fluid level quite accurately but there still remains some details to be agreed upon.

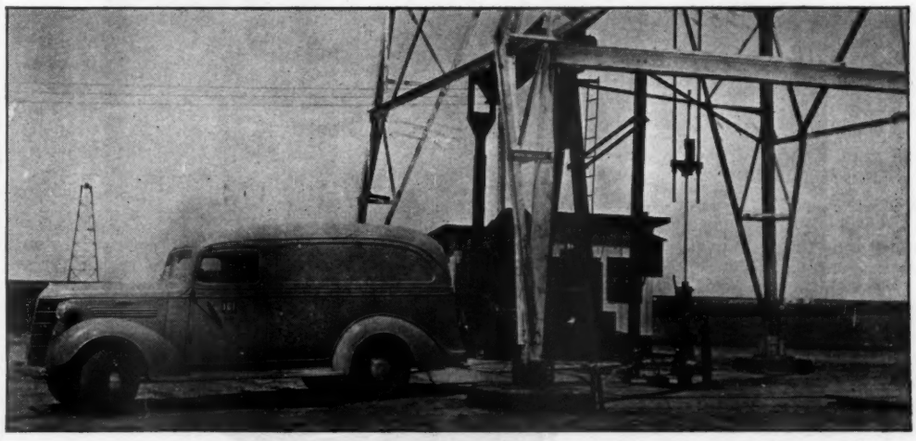
During the past few months a number of tests have been made in the oil fields of western Kansas by several major oil companies using Echo-Meter equipment. The objects of the tests were to determine the possibilities of this method for establishing potentials of wells producing from the Arbuckle lime and also to learn if the data acquired might be used to advantage in lease operation.

One group of nine wells was shut down completely for from 20 to 192 hours to establish static fluid levels. The first test was to determine the static fluid level using the Echo-Meter system and checking same with bottom-hole pressure gauge readings and by using a float. These three check methods were not used in all wells because the results secured in the first well so tested checked very close and it was therefore decided to use the Echo-Meter method only. Four other wells were checked by use of pressure bomb and one well was tested by using a submerged electric centrifugal pump.

Static Fluid Level

One of the outstanding results of this series of tests in the Trapp pool was the determination of the difference in static fluid levels in wells on the same lease and on adjacent leases. The static fluid level is measured down from the top of the casing and in the Trapp pool varied from 448 to 724 feet below the surface while in the Kraft pool the fluid level was about 200 feet below the surface in one well and 1,020 feet in another well on the same lease.

This difference in static fluid levels is prob-



Service truck at a well being tested by the Echo-Meter method

ably due to fluctuating conditions in the formation created by producing wells surrounding the well under test. Other factors probably entering into the variation in static fluid level are permeability of formation, depth of penetration into producing formation, formation pressure, porosity and saturation, and percentage of water. Because of these differences in the static fluid level it is suggested great care be taken in determining when the well has been shut down long enough to actually permit conditions to reach a state of equilibrium. It seems possible adjacent wells producing from the same formation may record widely different static fluid levels and in the event wells have not been shut down long enough this difference may be accentuated.

After the static level had been recorded the well was put on production. Most of these Trapp pool wells were equipped with special pumping units with 54-inch length stroke. Strokes for the first test varied from 18 to 20 per minute and averaged 33 strokes per minute for the second test.

The fluid produced during each test was delivered into lease storage tanks and gauged. The same procedure was followed after the second pumping test was completed. These results were all plotted upon ordinary cross-section paper with the fluid levels as the ordinates and the production per day expressed in barrels as the abscissa.

Fluid Level Plotted

On this graph the static fluid level was plotted first and then the levels as determined by the use of the Echo-Meter with the well pumping at slow and high speed were plotted. The second and third points were connected with a straight line which was extended to intersect the line representing the depth to the top of the producing formation. From this point of intersection a vertical line was drawn to the abscissa indicating the well potential.

It was found that the static level of the well did not always lie upon the line drawn through the fluid levels determined after pumping the well at slow and high speed. The difference was not great in some instances while in others the static fluid level did not fall very near the projected line drawn through the second and third points on the graph. One noticeable exception to this general statement has been noted in tests made on Arbuckle lime wells in Kansas where these points fall on a straight line, indicating a direct relation of production versus fluid level.

This method of testing wells has many advantages. It is relatively low in cost, can be done quickly and requires a minimum of equipment and men to conduct the tests. There are some details still to be worked out. For instance, if the well makes more than 50 per cent salt water it has been found the draw-down test is not very accurate. It has also been found that the straight line plot indicates about 20 to 25 per cent greater potential than the mechanical equipment on the well will produce because of pumping efficiency.

It has been suggested correction be made for this difference so the Echo-Meter may be used. In one pool the potential was approximately the same as that determined by pumping tests. A correction figure could be agreed upon by the operators in any field and recognized by the Corporation Commission. Likewise it is possible for the regulatory body in many states to authorize any method of taking potentials as legal and standard for any field if the operators in that area agree upon the procedure.

A.P.I. Announces Publication of Natural Gasoline Code

The American Petroleum Institute has announced the publication of Code 50-B—"Measuring, Sampling, and Testing Natural Gasoline (tentative)" as a companion code to Code 50-A—"Measuring, Sampling, and Testing Natural Gas (tentative)" issued last year.

Under the chairmanship of F. E. Rice, of Phillips Petroleum Co., the Main Committee on Measuring, Sampling, and Testing Natural Gas and Natural Gasoline of the Institute's Division of Production sponsored this code embracing standards and practices which, from technical soundness, general usage, or simplicity, have been found most dependable and worthy of broad dissemination. Only methods judged to be in widespread use in commercial transactions were considered suitable for inclusion.

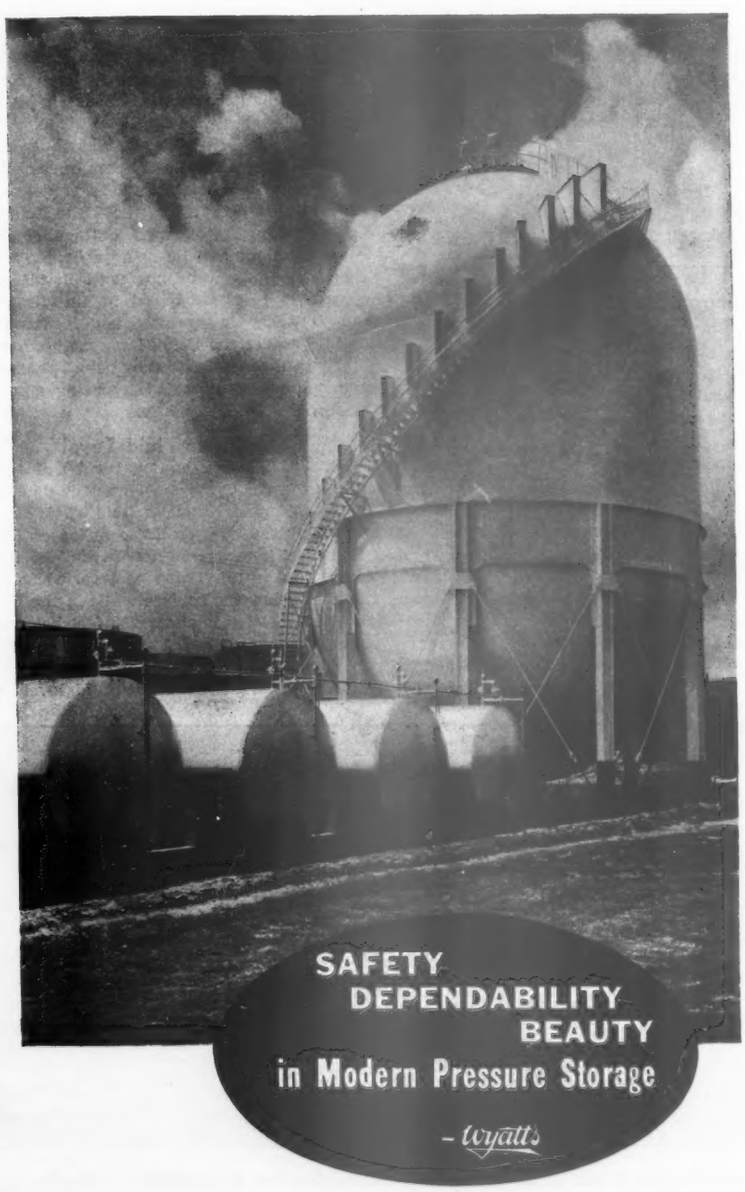
Detailed considerations related to measuring, sampling, and testing natural gasoline were carried on by a technical subcommittee, known as Group 1, under the chairmanship of S. S. Smith, of Shell Petroleum Corp., with the assistance of four additional subcommittees.

Single copies of Code 50-B are available from the New York and Dallas offices of the Institute at 35c each, with discounts for quantity.

An important feature of this code is the comprehensive procedure for sampling volatile petroleum products. In the preparation of this, sampling procedures prescribed by various standard test methods, technical associations, and other sources were carefully studied. Consideration was given the types of vessels from which samples would need to be secured and the tests which would be required on these samples for commercial purposes. The result, it is believed, satisfied a need which has been long existent.

While it has not been the purpose of this committee to develop new standards or procedures, during the course of its studies some inadequacies of prevailing standards became apparent. These were directed to the attention of the technical society or trade association which had established the standard in question and most of the revisions suggested have subsequently become a part of the standard referred to.

Code 50-B as adopted and now published is tentative. It is the policy of the Institute to maintain a standing committee for each standard and code adopted to consider additional test procedures and modifications or revisions of those already published, thereby insuring the adoption and recommendation for use of the best and most suitable standards.



PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Connate Water and Its Relation To Oil and Gas Sands

In discussions of core analysis reference is so often made to the presence of connate water. Can you explain how this water is segregated from other water which might accumulate in the pores of the sands? How did the connate water get into the sand pores in the first place?—E. F. S.

It is generally agreed that upon the expulsion of oil and gas from source beds and the subsequent migration and accumulation the movement occurred in the presence of salt water. The materials later formed into reservoirs for oil and gas were laid down by, or in the presence of, ancient seas. the pore space within the strata must have been saturated with salt water before the entrance of the oil and gas. Thus, the accumulation of oil and gas in the upper regions of structures suitable for reservoirs must have required displacement of the connate water. Connate water is a term used to describe the water that has been in a formation since it was formed or to put it another way the water and the formation accumulated at the same time, and the water is congenial to the formation in which it is found.

In the absence of any force other than gravitational, it would be expected that the displacement of the connate water out of the zones finally occupied by gas and oil would be complete, and the vertical distribution of gas, oil and water in the reservoir would be strictly in the order of their densities. Apparently, surface and interfacial forces are active and will not permit complete segregation of the fluids within the capillary spaces comprising a reservoir. The effects of these forces on both accumulation and production of oil and gas have been the subject of study.

In a paper presented before the Petroleum Division of the A.I.M.E., Ralph J. Schilthuis, Humble Oil & Refining Co., Houston, Tex., reports that in general the view is held that the character of most materials that make up the reservoir rock leads to preferential wetting of the rock by water instead of oil. The resistance to displacement of water by either oil or gas from capillary spaces increases as the cross-sectional dimensions of the pores decrease. The displacement of water can proceed only to the point where equilibrium is reached between the surface and interfacial forces that resist the displacement and the forces that favor it. Thus, conditions of occurrence of the fluids within the oil and gas bearing zones of reservoirs are probably such that:

1. The reservoir rock is completely wet by connate water and does not contact either oil or gas directly.
2. Oil and gas exist in the larger and interconnected pore spaces.
3. Connate water completely fills the smallest crevices and capillaries, particularly those that are discontinuous or sealed entirely.

The vertical distribution and the relative concentration of the fluids within certain zones probably is influenced by several factors, e.g., the relative densities of the fluids, size of the pore spaces, and interfacial and surface effects, the latter being dependent upon certain physical and chemical properties of the fluids and of the reservoir rock. Production experience bears out the fact that usually a well defined so-called "water-oil level or contact" exists, above which oil is obtained and below which water is produced either with the oil or exclusively. However, the fact that oil can be produced without water does not prove the absence of water in the oil-bearing formation. O. L. Brace writes: "Within a producing area, the fact that the produced oil is clean is no index as to the presence or absence of moisture in the sand, since the forces that held the water in place during oil migration would perform the same function during oil extraction." Whereas there was some question of Brace's view, later investigation supports it. While there is usually a fairly definite boundary or limited zone above and below which oil and gas or water, respectively is produced exclusively, it is likely there is no level above which only oil and gas exist within the pore spaces. In a given reservoir, the so-called "water table" is probably defined by a relatively narrow zone below which the ratio between the water and oil saturation is high enough so that only water is produced, while at higher levels, where the oil saturation is greater, oil production is obtained. When the properties of the formations are uniform, the limiting water-oil saturation ratio probably is definite.

The permeability of reservoir rock is closely related to the size of the pore spaces. It can be shown from Poiseuille's law that the permeability for a given fluid and given porosity varies as the square of the cross section dimensions of the pore spaces. If the views are correct the degree to which oil and gas displaced the connate water out of the pore spaces in accumulation is limited by size of the pores, it follows that the connate-water content of oil and gas formations should bear some inverse relationship with their permeabilities.

The paper discusses the methods used in determining both the water and oil content of core samples. It is usually necessary to apply special technique in coring and to observe precautions in preservation of the samples until analyzed.

The principle difficulties that stand in the way of obtaining core samples of which the fluid content represents conditions existent within a reservoir are (1) contamination and flushing of the cores by the drilling fluid or liquid phase therefrom; (2) reduction of pressure occurring as the cores are withdrawn and resulting in expulsion and loss of portions of the native fluids.

To correct for contamination of cores by the drilling fluid or aqueous phase thereof, the procedure has been suggested and used whereby "tracers" are placed in the mud, and their subsequent quantitative detection in the cores has been taken as a measure of the water originating from the drilling fluid. Acetone, arsenic, propanol and dextrose treated with octanol to prevent fermentation have been used as tracers. While such technique would permit measurement of contamination if it arose simply from radial infiltration of small amounts of the aqueous phase of the mud into the cores after they were cut, the method cannot reveal the degree to which the fluids native to the core might be displaced by advance of the liquid phase of the mud through the formations before they are penetrated by the core barrel.

It would seem reasonable that the use of a water-free drilling fluid might overcome some of the difficulties encountered in obtaining representative samples of oil- and gas-bearing formations for determination of their connate-water content. An oil-base mud has been successfully used for this purpose. The determination of the oil content of core samples obtained while using such a mud are open to question, yet, because of the very nature of its occurrence, the connate water is undisturbed, except in highly permeable formations where penetration of oil from the mud ahead of the drill might be sufficiently severe to flush away a portion of the water if water saturations are high. This difficulty might be experienced in the vicinity of the so-called "water-oil contact" or below, but ordinarily not in the zones actually productive of oil and gas.

Immediately upon reaching the surface, samples of the cores should be selected, scraped to remove clay sheath, and then coated with synthetic wax to preserve the contents against evaporation. Ordinary sealing wax, such as is used for sealing letters, was chosen after tests of paraffin wax, waxed paper, cellophane, collodion and lacquer. Sealing wax best withstands handling, indefinitely resists penetration or solution by the core contents, and yet is easily removed.

Core samples should be examined for water, oil and sodium chloride content. Determinations should be made for porosity, permeability and bulk density of an extracted and dried piece taken from each core sample adjacent to that used for the oil, water and salt analyses. The analysis of water serves as a direct measure of the connate water while the analysis for sodium chloride, coupled with data on the analyses of native salt water produced from the field, is an indirect check on the direct measurement of connate water.

The procedure followed in the determination of water and oil in the core has been described by Pyle and Jones, "Quantitative Determination of Connate Water Content of Oil Sands," A.P.I. Drilling and Production Practice (1936); Horner, "Determination of Oil Content of Sands,' 'Petr. Eng., April 1935; and Barnes, "Porosity and Saturation Methods," Drilling and Production Practice, A.P.I., 1935. The procedure followed by Schilthuis is a combination of vaporization and combustion, having provision to absorb quantitatively the water vaporized and to give a measure of the oil by difference between the total loss in weight of the sample after combustion and the weight of the water vaporized and absorbed.

The determination of chloride is made on a portion of the sample crushed for water and oil analysis. A 5 to 15-gram sample is weighed out and digested in about 100 ml. of water and 5 ml. of saturated potassium nitrate, the purpose of the latter being to coagulate clay particles. The mixture is heated to boiling, then allowed to stand for a time before it is filtered; the filtrate is titrated with standardized silver nitrate solution, using potassium chromate as indicator.

Permeability, porosity and density measurements are also made on the same sample after sizing, leaching with solvents such as alcohol, carbon tetrachloride, and ether to remove connate water and oil, and then drying. After drying the sample is weighed for the bulk density measurement, permeability is determined in accordance with A.P.I. Code No. 27, the effective volume of pore space by the Washburn-Bunting method and finally bulk volume by displacement of mercury from a pyconometer.

YOU CAN REDUCE YOUR SWEETENING COSTS

PERCO COPPER SWEETENING installations are already effecting substantial economies at 63 refineries and natural qasoline plants. PERCO'S "double saving" can save real money for you.

If you send us samples of your unsweetened product, we can estimate very closely the extent of your savings. And there is no charge.

SEND THEM TO

PERCO INCORPORATED

Bartlesville, Oklahoma

or to

THE L. S. GREGORY COMPANY, TULSA, OKLAHOMA

LICENSING REPRESENTATIVE

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Doctor Sweetening and Essential Tests For Control

In treating sour gasoline with sodium plumbite solution, is there any method of determining just what is the economical strength solution for the treatment and whether sulfur should be added? How can you determine whether the plumbite treatment will sweeten?—M. G.

Replying to your inquiry, the selection of a method, including the concentration of the solutions, for sweetening should be based on laboratory investigations, which include analyses of the stocks and hand treats or actual sweetening on a small scale. Both copper strip and doctor test are applied to the finished gasoline.

There are several substances used besides sodium plumbite. One method of considerable merit uses cupric chloride and another zinc chloride. The sodium plumbite, or doctor solution, reaction is well known. The essential steps include changing the mercaptans to lead mercaptides by addition of sodium plumbite, then converting the mercaptides to disulfides and lead sulfide by means of sulfur. With copper the principles are similar as indicated by these equations:

(1) $2\,RSH + 2\,CuCl_2 \rightarrow RSSR + 2\,CuCl_2 + 2\,HCl$
Mercaptan — Cupric chloride — Disulfide — Cuprous chloride — Acid hydrochloric

(2) $2\,CuCl + 2\,HCl + 1/2\,O_2 \rightarrow 2\,CuCl_2 + H_2O$
Cuprous chloride — Hydrochloric — Oxygen — Cupric chloride — Water

(1) + (2) $2\,RSH + 1/2\,O_2 \rightarrow RSSR + H_2O$
Mercaptan — Oxygen — Disulfide — Water

When hydrogen sulfide is present in the stock it should be removed by washing with water and caustic soda solution before the application of sodium plumbite. The common test for hydrogen sulfide is to add 4 to 5 cc. of lead acetate solution to a portion of the raw gasoline, which in the presence of the sulfide produces a black precipitate. In plant operations it is the practice to add the free sulfur ahead of the doctor solution because the reaction is sharper and less required than when applied after the plumbite solution. Addition of sulfur appears to be essential for complete sweetening and good separation of the lead sulfide. When the sulfur is short, intermediate products may be formed and a brownish color develop in the gasoline. The added sulfur need not be in the free form, for some refiners use a portion of a sour product and others use various sulfides. These are details that have to be determined by preliminary investigations.

Sodium plumbite solution is used in various strengths, ranging from about 12° Be. to 30° Be. but a solution which seems to be used more than any other is 12° to 16°. The lead content may vary from approximately 2.5 to 3 per cent. It should be maintained at a practically constant strength by the addition of sodium hydroxide and litharge as may be required as indicated by laboratory analyses for alkalinity and lead content. Inspections should be frequent enough to obtain the required information.

The usual laboratory inspection of the doctor solution includes the determination of alkalinity, sodium hydroxide, by titrating the sodium plumbite solution with standard acid in the presence of an indicator such as phenolphthalein or methyl orange. The result by this method is not exact but sufficient for routine inspection.

The volumetric molybdate method of Schuessler and Todd is both accurate and rapid for the determination of lead. Ammonium molybdate precipitates the lead and tannic acid is used as an outside indicator to detect the endpoint.

References: Schuessler and Todd, The Oil and Gas Journal, March 10, 1927, page 200.

Classification of a Crude Oil

What tests are made for the purpose of determining whether a crude oil has a paraffin or asphalt base?—E. N. R.

The substances present in a crude oil fix its character or type. The quantity of low-boiling hydrocarbons may be considered an indication. If these are present in commercial, or large quantities, the oil may be considered to be paraffinic. Actual separation of paraffin wax will also be conclusive. With no low-boiling hydrocarbons present and a residue from distillation consisting of asphaltic material, it may be concluded that the oil is asphaltic. In many oils both paraffin and asphalt are present; these are mixed base oils.

The U. S. Bureau of Mines method for determining the base of a crude oil is as follows:

1. Note the A.P.I. gravity of "key fraction No. 1," the fraction distilling between 250° and 275° C. (482° and 527° F.) at atmospheric pressure.

2. Note the A.P.I. gravity of "key fraction No. 2," the fraction distilling between 275° and 300° C. (527° and 572° F.) at 40 mm. absolute pressure.

For purposes of classification, the gravity of key fraction No. 1 is taken as representing the lighter (lower-boiling) fractions of the oil, whereas the gravity of key fraction No. 2 represents the heavier (higher-boiling) distillates.

If the gravity of key fraction No. 1 is 40° A.P.I. or lighter, the lower-boiling fractions of the oil are paraffinic in character; if it is 33° A.P.I. or heavier, they are naphthenic; and if it is between 33° and 40° (33.1° to 39.9° A.P.I., inclusive), they are intermediate.

Similarly, if the gravity of key fraction No. 2 is 30° A.P.I. or lighter, the higher-boiling fractions of the oil are paraffinic in character. They are naphthenic if key fraction No. 2 is 20° A.P.I. or heavier and intermediate if the key fraction is between 20 and 30 (20.1° to 29.9° A.P.I., inclusive).

Shale Oil Possibilities in the United States

What is the quality of the oil obtained from shale in the United States? Where are the best shale deposits located? How do the shales vary in oil content?—K. B. C.

There are no shale deposits in the United States that are at present a source of oil. An extensive investigation of oil shales and shale oil was made by the U. S. Bureau of Mines during the period 1916 to 1930. These studies included field surveys, laboratory work, mining and retorting for yields of the raw oil. The work was concluded with laboratory refining and small-scale cracking experiments. All of this work was summarized by A. J. Kraemer, Senior Refinery Engineer, Bureau of Mines, Washington, D. C., before the Oil Shale Conference, Glasgow, Scotland, June 6 to 10, 1938. The information reported here is from the Glasgow report.

The early investigations of Dean E. Winchester showed there were three types of shale in the United States that would yield commercial quantities of oil. The oil does not exist in the shale as such but is formed in the retorting operation. The mining of shale and the treating of the oil will not pay, it is estimated, until crude oil from wells is valued at $5 to $6 a barrel.

The types of oil shale described by Winchester are: Tertiary oil shales of Colorado, Nevada, Utah, and Wyoming; the Devonian black shales of Indiana and Kentucky; and the cannel shales found in Pennsylvania and West Virginia. Shales are considered as possible sources of oil if they will yield a minimum of 10 gallons per ton for Devonian black shales and 15 gallons for the Tertiary shales. Some shales yield about 60 gallons to the ton. All of these shales have a minable oil value of 144,162,197,000 bbls. of oil with a recoverable volume of over 92 billion barrels. The largest deposits, counting possible oil recovery, are in Colorado and Utah.

The quality of a typical raw oil, obtained at the rate of 31.8 gallons per ton of shale in a Pumpherston retort is reported in the table.

QUALITY OF SHALE OIL

Specific gravity		0.887
A.P.I. gravity		28.0
Sulfur, per cent		0.67
Nitrogen, per cent		1.91
Pourpoint, °F.		80
Distillation	Per cent	Grav. A.P.I.
392° F.	15.4	46.2
392 to 527°	19.7	34.2
527°	35.1	32.9
Residue	64.9	22.8

The paper by Mr. Kraemer mentions several references that contain information about shale and shale oil. The ones mentioned here are directly related to the inquiry.

References: Oil Shale, M. J. Gavin, B. of M. Bulletin 210, 1924. Construction and Operation of the Bureau of Mines Experimental Oil Shale Plant 1925-1927, M. J. Gavin and J. S. Desmond, B. of M. Bulletin 315, 1930. Oil Possibilities of the Oil Shales of the United States, D. E. Winchester. Appendex I, Report II of the Federal Oil Conservation Board to the President of the United States, January 1928, Washington, D. C., 1928.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Hydrofluoric Acid

Use—Decomposition of sand in oil wells and etching of glass.

Form—Colorless, fuming, very corrosive liquid, which is a solution of the gas.

Formula—HF.

Specific gravity (gas)—0.7126.

Melting point, °F.—198.

Boiling point—67.

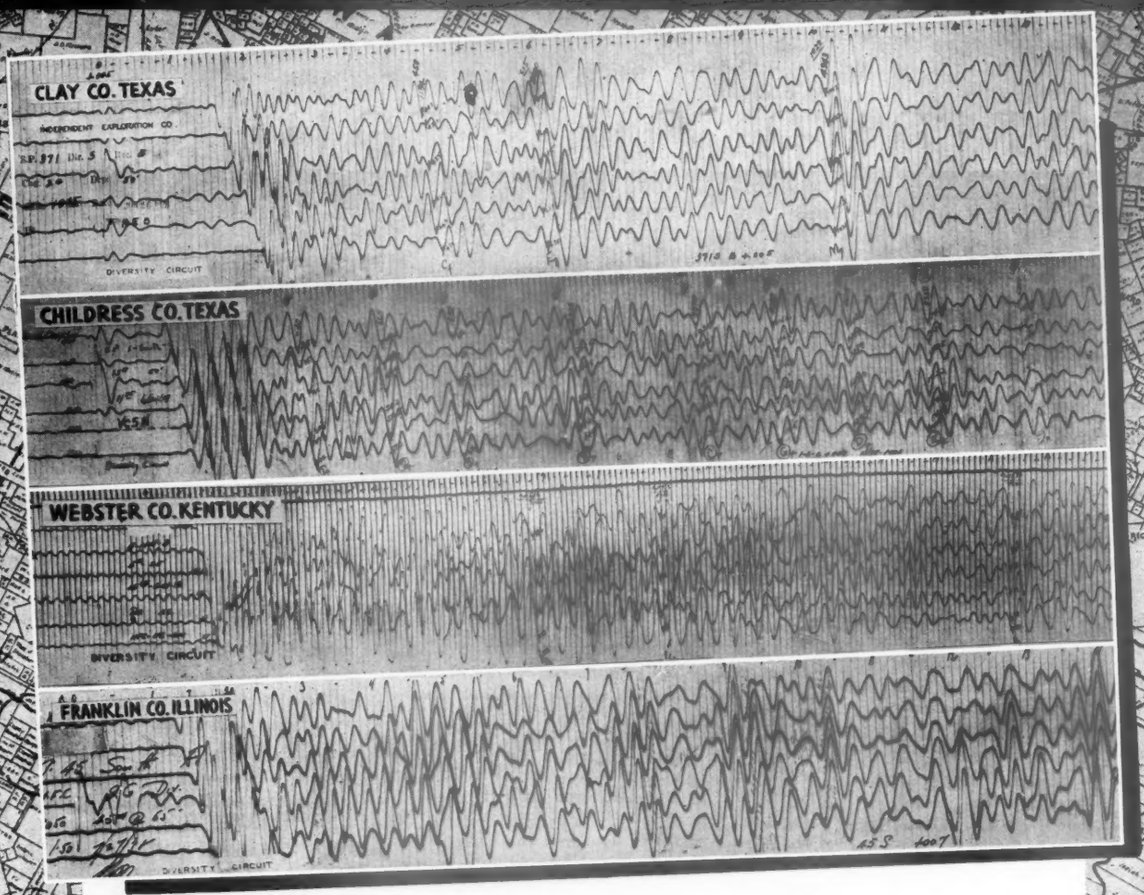
Solubility, all proportions, water.

LIMITATIONS

Grades available include 2 per cent (dilute), 30, 40, 48, 52, and 62 per cent (fuming).

Small quantities shipped in ceresin or lead bottles. Other containers are lead carboys, hardwood barrels and drums.

Note: A dangerous product, acts rapidly on flesh. Handle with extreme care.



New INSTRUMENT Makes GOOD Seismograph Records in Areas Once Believed Impossible

Opening up new territories for seismic mapping, the new SOGAD Amplifier and Diversity Circuit enables us to obtain satisfactory records in areas where high velocity limestone, sandstone, gypsum, etc., have heretofore made accurate work extremely difficult or impossible.

Recently perfected, after several years of research, this new instrument greatly simplifies the correlation of records and aids in achieving results which broaden the useful field of the seismograph . . . it is, in our opinion, one of the most important seismograph improvements since 1930 when 4 traces were put on one record. Demonstration has proved the SOGAD Amplifier and Diversity Circuit may be relied upon to:

1) Filter out vibrations not produced by reflected energy and it is especially successful in elimination from the records low frequency surface disturbances or "ground roll."
2) Reduce the depth necessary to drill shot holes. In several areas the shot hole depth was reduced from 150 feet to 50 feet.
3) Accentuate and increase the record character, making for more simplified correlation.
4) Give a record that shows reflections starting at .35 second and continuing to the deepest beds being surveyed, without reducing the amplitude of the first breaks.

The performance of SOGAD Amplifier and the Diversity Circuit is best illustrated by the records themselves. The records on this page are from Clay County, Texas, and Childress County, Texas (gypsum outcrop); Webster County, Kentucky (limestone outcrop); and Franklin County, Illinois. For further information send for our illustrated booklet, *Seismograph Exploration in the Search for Oil.*

INDEPENDENT EXPLORATION COMPANY

ESPERSON BUILDING — HOUSTON, TEXAS

POINTING THE WAY FOR THE [illegible]

Experienced in 22 States and in Foreign Fields

FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—A new producing area was opened between the St. Louis and Asher pools in southern Pottawatomie County. An important wildcat southwest of the Oklahoma City field was dry and abandoned. The eleventh, and second largest, producer in the Ramsey pool, Payne County, was good for 13,428 bbls. daily, extending the pool one location southward.

KANSAS—New producing areas were opened in four Kansas counties. These included the East Sittner pool in Stafford County and the Wolf pool in Barton County. An outpost in Russell County proved production midway between the Hall and Letsch pools. A Bartlesville sand pool was opened northwest of Cherryvale in Montgomery County, 3 miles from nearest production. The potential production of all Kansas wells attained a new peak with 3,603,253 bbls. daily.

NEW MEXICO—The Vacuum area in Lea County was extended 1 mile southeast in Section 27-17-35, and three good natural producers were completed in the field. A wildcat was started in Section 35-26-37, in southeastern Lea County and one-fourth mile north of the Texas line. A wildcat southeast of Lovington was abandoned at 5,302 feet.

ILLINOIS—A 1,000-bbl. well from Benoist sand in the new Texaco or Lake Centralia field in Marion County led the completions in that area and in all the Benoist sand fields of Marion, Clinton and Fayette. The Beecher City field in Fayette County will have a larger outlet in September with the completion of the Oklahoma Pipe Line Co.'s line to connect with the Illinois pipe line at Brownstown. The Fayette County and the new Texaco fields are drawing operators from the Centralia area and both promise a lot of field work this fall. Production is steadily rising in the basin fields.

TEXAS—A dry hole discounted an effort to extend the K.M.A. field into Wilbarger County. Deepest pay yet found in Wichita County is being tested south of Wichita Falls. A 6,354-foot wildcat in Clay County, failing to find production, is plugging back. The Slaughter pool in Hockley County, West Texas district, was extended easterly and northeasterly. Shallow pools were opened in Young and Shackelford counties. A new pool was opened in Jackson County on the Gulf Coast. Several important wildcats in Southwest Texas were dry and abandoned.

LA-ARK-TEX—The new Shreveport field is limited to one well to 10 acres in the city, and one well to 40 acres outside the city. The first dry hole in the Jones sand in the Schuler field in Arkansas was reported. Salt water troubles are bothering operators in the new Village pool in Columbia County, Arkansas. The Jefferson, East Texas, area was extended southwesterly, but the well is a gas producer good for 28,000,000 feet per day.

MICHIGAN—Ten new oil wells and 10 dry holes comprised Michigan's record of the week, with the new Overisel pool in Allegan County leading with four new oil wells averaging 500 bbls. to the well, and one dry hole.

Completions in All Fields

(Week Ending August 27, 1938)

	Oil	Gas	Dry	Total	1938 total comp. to date	1937 total comp. to date
N. Y., Pa. and W. Va.	41	10	3	54	2,526	2,894
Ohio	8	8	5	21	628	762
Indiana	0	0	0	0	53	64
Kentucky	9	0	4	13	565	356
Illinois	30	0	16	46	892	86
Michigan	10	0	10	20	539	525
Kansas	27	0	5	32	1,074	1,682
Oklahoma	19	4	15	38	1,142	1,848
Texas:						
North Central Texas	39	0	13	52	2,059	1,845
West Texas	32	0	5	37	1,296	1,787
Texas Panhandle	8	2	0	10	393	484
East Texas	33	0	1	34	1,338	1,498
East Central Texas	4	0	2	6	235	456
East Texas Border	2	1	0	3	100	247
Gulf Coast Texas	26	1	7	34	870	998
Southwest Texas	38	0	12	50	1,336	2,172
Total Texas	182	4	40	226	7,627	9,487
North Louisiana	7	5	4	16	434	420
Gulf Coast Louisiana	3	0	2	5	308	305
Total Louisiana	10	5	6	21	742	725
Arkansas	5	0	2	7	158	102
Montana	2	1	1	4	61	140
Wyoming	0	0	0	0	103	69
Colorado	0	0	0	0	6	9
New Mexico	10	0	3	13	376	494
Utah	0	0	0	0	1	2
California	22	1	8	31	873	1,003
Total United States	375	33	118	526	17,366	20,248
Total previous week	341	35	121	497		
Difference	34	2	3	29		

Outstanding Fields--Highlights

(Week Ending August 27, 1938)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	63	95	15	18,059	707	15,000
Hastings	1	7	2	1,122	576	20,436
Saxet	0	9	0	0	612	32,213
East Texas	20	43	33	1,496	25,543	441,200
Ector County	13	85	13	12,336	1,228	44,100
Winkler County	7	13	3	1,637	1,686	40,550
OKLAHOMA						
St. Louis	6	25	3	668	675	21,750
Oklahoma City	7	8	0	0	1,090	96,775
KANSAS						
Barton County	5	17	3	591	350	9,820
Stafford County	3	15	0	0	161	4,490
Rice County	4	16	3	651	1,192	27,885
Russell County	4	19	1	196	1,122	26,295
NEW MEXICO						
Lea County	14	77	9	1,276	1,830	99,990
LA-ARK-TEX						
Rodessa, La-Ark-Tex	2	12	3	1,755	1,023	71,825
Cotton Valley (deep)	4	14	1	385	86	11,305
Lisbon, La.	3	6	3	3,120	259	9,715
Schuler, Ark.	4	22	3	1,930	85	23,630
Jennings, La.	2	12	1	400	116	18,130
MICHIGAN						
Overisel	5	13	4	2,077	16	4,000
ILLINOIS						
Central Illinois	39	253	30	7,043	824	58,167
CALIFORNIA						
Wilmington	5	23	6	3,991	541	94,250
KENTUCKY						
Birk City	4	26	1	500	38	3,150

Illinois and Kentucky

By STAFF CORRESPONDENT

Benoist Sand Yields Large Production in Newer Pools

MATTOON, Ill., Aug. 29.—No less than eight wildcat tests scattered over the big Illinois basin counties were completed in the past week but six of these were abandoned as dry.

Parshall-Graham Oil Co. No. 1 Shook, C NE SE NE Section 9-1n-1e, Marion County, was abandoned at 1,930 feet. It topped Menard at 1,217 feet, Glen Dean at 1,420 feet, Cypress at 1,650 feet, Paint Creek shale at 1,690 feet, Paint Creek lime at 1,720 feet, Bethel at 1,750 feet, Renault at 1,790 feet, Aux Vases at 1,802 feet, Ste. Genevieve lime at 1,870 feet, and Fredonia shale at 1,915 feet. It had no showings of oil in any formation.

Mammoth Producing & Refining Co. No. 1 Bachman, C SW SE SW Section 9-1n-2e, Marion County, pumped 159 bbls. of oil in 24 hours from Bethel sand at 1,886-1,903 feet, southeast of the Texaco pool.

Penn-Illinois Oil Co. No. 1 A. D. Nichols, NE SW SW Section 22-4n-2e, Marion County, drilled to McClosky lime at 2,222-53 feet, total depth 2,265 feet, and was dry and abandoned.

Jarvis No. 1 E. Welker, C NE SE NW Section 31-7n-3e, in Fayette County, had saturated Weiler sand at 1,543-68 feet, total depth 1,570 feet, which was shot with 60 quarts. The well pumped 48 bbls. in 12 hours and pumped off. It is about 9 miles south of the Beecher City pool.

Carter Oil Co. completed a failure in Effingham County, No. 1 Bartscht, C SW SE Section 20-9n-4e, at 2,012 feet. It topped Glen Dean at 1,476 feet, Cypress at 1,620 feet, Weiler at 1,641-68 feet showing salt water, Stray sand at 1,753 feet, Aux Vases at 1,780 feet and Ste. Genevieve lime at 1,895 feet.

Producers Oil and Development Co. No. 1 Boys. C NW NE NW Section 27-12n-3e, Shelby County, topped McClosky lime at 1,793 feet and drilled to 1,804 feet. It was dry and abandoned.

Gill No. 1 Smithey, C W half NW NE NE Section 6-1s-1e, Jefferson County, was drilled to 2,132 feet and plugged back to 1,060 feet and shot with 10 quarts at 1,051-57 feet. It was dry and abandoned.

Scott Townsend and others No. 1 Kaser, SE SE NW Section 6-3s-2w, Washington County, topped Bethel sand at 1,397 feet. total depth 1,443 feet, where it was abandoned as a failure.

Fayette's New Outlet

Oklahoma Pipe Line will soon be ready to ship oil through its new 8-inch and 6-inch line from the Beecher City field in Fayette County to Brownstown, 7 miles east of the city of Vandalia, in the same county, where it will be taken by the Illinois Pipe Line Co. for shipment northeasterly, its final destination being the Imperial Oil Co. refinery at Sarnia, Ontario. The company has up to now been shipping a part of its Beecher City production through the Owensboro Corp.'s system, and has been necessarily working under a prorated schedule, but the new line will enable it to get rid of all its Beecher City production as there is yet no legal regulation on Illinois production, notwithstanding its steady increase. A Diesel-driven piston-pattern pump at Louden will force the oil through the discharge line to Brownstown.

Late completions in the Centralia field in Marion County included Bert Field No. 1 M.&I.R.R., NE cor. SW SW Section 18-1n-1e, sand at 1,351-78 feet, shot with 15 quarts, pumped 230 bbls. the first 24 hours; J. R. Olstrom No. 1 Cramer, SW cor. Section 18-1n-1e, sand at 1,354-74 feet, shot with 10 quarts, estimated initial production 100 bbls.; same operator's No. 1 B. G. Hervey, NE cor. SW NW NW Section 19-1n-1e, sand at 1,372-84 feet, 100 bbls.; Fairhope Oil Co. No. 1 Mentler, NW NW NW Section 19-1n-1e, sand at 1,365-90 feet, no shot, 100 bbls.

In the Texaco or Lake Centralia pool, east of Centralia, the Texas Co. No. 2 Tate, NE NW NW Section 5-1n-2e, sand at 1,659½ feet, total depth 1,707 feet, flowed 391 bbls. a day through quarter-inch choke. Texas Co. No. 1 Reed, NW NE NW Section 5-1n-2e, sand at 1,657-98 feet, flowed 154 bbls. in 18 hours through 1-inch choke on casing. I. D. Lain No. 1 Dempsey, SE NE SW Section 31-2n-2e, sand at 1,750-74 feet, flowed 1,000 bbls. through casing. Texas Co. No. 1 Williams, C E half SE SE Section 31-2n-2e, sand at 1,651½-90 feet, flowed 319 bbls. through quarter-inch choke. Texas Co. No. 4 Williams, NW SE SE Section 31-2n-2e, sand at 1,649-95 feet, flowed 538 bbls. in 18 hours, four hours through casing and 14 hours through tubing on 7/32-inch choke.

ILLINOIS FIELDS

HIGHLIGHTS OF THE WEEK: Fayette County's new pipe line will give the Beecher City pool a greatly increased crude market. Much of the oil will go to a Canadian refinery. A 1,000-bbl. well in Benoist sand led the completions in the new Lake Centralia pool in Marion County.

Daily production of new pools, 58,167 bbls.; old pools, 11,297 bbls. Total, 69,464 bbls.

Completed oil wells, 30. New operations including locations, 62. Rigs and wells drilling, 292.

In Clay County, Pure Oil Co. No. 1 Duff B, 330 feet from west and 580 from south lines SW quarter Section 33-3n-8e, pay at 2,995-3,015 feet, at intervals, flowed 583 bbls. naturally in 24 hours.

In the Patoka pool, Adams Oil & Gas Co. No. 3 Balance, NW cor. SW SW Section 28-4n-1e, is a 48-bbl. well at 1,436-47 feet, sot with 10 quarts.

In Fayette County, Kingwood Oil Co. and Duncan No. 3 Yolton, SE SW NW Section 7-7n-3e, had sand at 1,586-97 feet, and pumped 142 bbls. a day; Roy Brown and others No. 1 Hopper, SE NE SE Section 12-7n-2e, Weiler sand at 1,505-26 feet, pumped 225 bbls. in 22 hours. Canary, Sherman and others No. 1 Sefton, NE NE NE Section 12-7n-2e, Weiler sand at 1,525-75 feet, 115 bbls. in 24 hours. W. M. Angle No. 1 Ferguson, NE cor. NW NW Section 18-7n-3e, Weiler sand at 1,510-30 feet, 210 bbls. in 22 hours. Cummings, Sherman & Canaray No. 1 Burtschi, Weiler pay at 1,505-24 feet, 183 bbls. in 24 hours. Carter Oil Co. No. 2 J. G. Main, NW SW SE Section 15-8n-3e, shot with 40 quarts, flowed 150 bbls. in 21 hours. Barney Whisenant and others No. 2 H. Lilly, NE SE SW Section 16-8n-3e, shot with 40 quarts in Bethel sand at 1,560-80 feet. flowed 380 bbls. in 24 hours. Paul Doran No. 1 McCann, SE cor. NE SW Section 31-8n-3e, Weiler sand at 1,519-46 feet, shot with 40 quarts, flowed 166 bbls. of oil in seven hours and later pumped 250 bbls. in 24 hours. W. B. Johnson Drilling Co. No. 2 Golting, SW cor. NW NE NW Section 32-8n-3e, Bethel sand at 1,577-99 feet, shot with 40 quarts, 204 bbls. in 24 hours through tubing.

Completed Wells

Kirk D. Holland No. 1 H. E. Wilson, NE NE SE Section 18-3n-3e, Marion County, was abandoned at 2,230 feet. It had Benoist sand and a dose of salt water at 2,210 feet.

Pure Oil Co. No. 1 Sal Smith A, C W half NW SE Section 9-2n-8e, Clay County, had pay at 2,983-87 feet and 2,998-3,001 feet, and after a 5,000-gallon acid treatment the well flowed 360 bbls. of oil in 24 hours.

Crosby & Gill No. 1 Fitzgerald, NE NE NE Section 6-1s-1e, Jefferson County, was dry and abandoned at 1,840 feet.

Williams & Wittlinger No. 1 Roy King, NW SE SE Section 24-15n-7w, Sangamon County, topped Devonian limestone at 1,380 feet, uncovered water at 1,385 feet and was abandoned.

In Bond County, John Farrelly No. 1 Kyle, SW NW NW Section 28-4n-4w, was dry and abandoned at 1,327 feet. McClosky lime was topped at 1,065 feet and St. Louis at 1,089 feet, total depth 1,327 feet.

In Lawrence County, Bolton and others No. 2 Desbeauf, NE SE NE Section 18-2n-11w, pumped 50 bbls. of oil and 150 bbls. of water initially from McClosky lime at 1,944-53 feet, which had been acidized with 2,000 gallons and then with 3,000 gallons.

In Macon County, Sun Oil Co. No. 1 Powers, SW SW NE Section 30-17n-2e, a St. Peter sand test, found only water in that formation at 2,937 feet and was abandoned. It had a trace of oil in Trenton lime at 2,565 feet. Mississippi lime was topped in this test at 1,082 feet, Devonian at 1,931 feet and Silurian at 1,-933 feet.

In Fayette County, Carter Oil Co. No. 1 John Alsop, NW SW NW Section 12-8n-3e, old total depth 1,567 feet, where it was a 32-bbl. well, was plugged back to 1,466 feet. A 40-quart shot at 1,446-66 feet resulted in an initial production of 159 bbls. of oil. Jones No. 1 Wills, NE SW SE Section 6-8n-3e, was dry and abandoned at 1,772 feet. It had Bethel sand with no showing at 1,746 feet.

In Jasper County, Continental Oil Co. No. 1 Eveland, 330 feet from north and 415 feet from west lines of NW quarter Section 33-7n-9e, was dry and abandoned at 3,210 feet. McClosky lime was topped at 3,-016 feet and St. Louis at 3,180 feet.

In Fayette County, Jarius Brothers No. 1 John F. Welker, NE SE NW Section 31-7n-3e, pumped 24 bbls. of oil in eight hours from Stein sand at 1,543-68 feet, which had been shot with 60 quarts. Max Pray No. 2 Ferguson, NW NW NW Section 18-7n-3e, started at 200 bbls. a day from Weiler sand at 1,512-47 feet. Max Pray No. 1 Ferguson. 100 feet distant from No. 2, also a Weiler sand well, started at 290 bbls. a day on the pump, producing from 1,315-49 feet. L. L. Blomgren and others No. 1 Owens, NE NE SE Section 8-7n-3e, was shot with 60 quarts in Stein sand at 1,450-80 feet and flowed 80 bbls. in 24 hours through tubing, total depth 1,541 feet. Stableford No. 1 Horner, NW NE NE Section 1-7n-2e, had Bethel sand at 1,704 feet, total depth 1,760 feet, and it was dry and abandoned. J. L. Youngblood No. 1 Miles, SW NE SW Section 10-6n-3e, was dry and abandoned at 1,912 feet. Bethel sand was topped at 1,900 feet.

In Richland County, Fortney Oil & Gas Co. got a 400-bbl. well in No. 2 Miller, SW SW NW Section 26-4n-10e, from pay at 3,063½-70 feet, which had been acidized with 5,000 gallons. Fortney Oil & Gas Co. No. 1 E. G. Miller had pay at 3,067 feet, which was acidized with 5,000 gallons. It flowed 780 bbls. in 24 hours through casing. Pyramid Petroleum Co. No. 2 Sly, NE SE SE Section 22-4n-10e, topped McClosky lime at 3,009½ feet, total depth 3,038 feet, and it flowed 100 bbls. a day by heads after a 5,000-gallon acid treatment.

In the Patoka pool, Marion County, Adams Oil & Gas Co. No. 2 City of Patoka, SW NW SW Section 28-4n-1e, had Benoist sand at 1,441-46 feet, was shot with 10 quarts and is a 31-bbl. well.

In the Clay City pool, Clay County, Pure Oil Co.

WHY MISSION VALVES LAST 100% LONGER

Oil men in every oil field are finding that the Mission principle of "Pull the Bushing and Save the Seat," is extending the life of Mission Valves and Seats by at least 100%. In many instances they have lasted 200% to 500% longer, due simply to the operator giving attention to replacing the wear-taking bushing at the proper times.

A MONEY-SAVING PRACTICE THAT HAS MADE MISSION VALVES LEADERS IN EVERY OIL COUNTRY

Sold Through Supply Stores Everywhere

MISSION MANUFACTURING CO.
HUMBLE ROAD, HOUSTON, TEXAS
EXPORT OFFICE: 30 ROCKEFELLER PLAZA, NEW YORK

• SLIPS • VALVES • PISTONS • PISTON RODS • SWABS

No. 1 Izoa Moseley, C E half NW NE Section 32-3n-8e, started at 895 bbls. a day from pay at 3,000-37 feet, acidized with 5,000 gallons.

In Richland County, Wicklund Development Co. No. 1 Roma Van Matre, NW cor. SE SE SW Section 7-2n-9e, was dry and abandoned at 3,150 feet. It had no showings.

In Clay County, Pure Oil Co. No. 3 Earl Moseley A, C W half NW SW Section 16-2n-8e, was a 35-bbl. well from pay at 3,008-32 feet, total depth 3,060 feet, which had been acidized with about 5,000 gallons. Pure Oil Co. No. 1 Long Consolidated, C S half NE NE Section 12-2n-8e, was dry and abandoned at 3,102 feet. It had been acidized with 5,000 gallons at 2,993-3,102 feet. Pure Oil Co. No. 2 Sol Smith A, C W half SW SE Section 9-2n-8e, flowed 355 bbls. a day from pay at 2,990-3,075 feet, at intervals, which had been acidized with 5,000 gallons. Pure Oil Co. No. 1 Arthur Schuble, C W half NW NE Section 27-1n-7e, flowed 1,020 bbls. in 24 hours from pay at 3,108-18 feet, which needed no acid.

Centralia townsite completions, in Marion County, with their sand record and initial production were as follows: Hill and Jones No. 1 C. P. Marshall, SE NW NW Section 18-1n-1e, sand at 1,362-89 feet, shot with 5 quarts, pumped 63 bbls.; J. W. Menhall No. 2 Illinois Central Railroad, sand 1,357-71 feet, shot with 10 quarts, 300 bbls.; Boyce & Welch No. 1 Bublis, NW cor. SW NW Section 19-1n-1e, sand 1,378-86 feet, shot with 10 quarts, 75 bbls. of oil and 20 bbls. of water; J. Q. Gill No. 1 Mable Gibson, SW SE SE Section 7-1n-1e, dry and abandoned at 1,820 feet.

In Jefferson County, Carter Oil Co. No. 2 Maude Foster, NW NW NW Section 10-1s-2e, Bethel sand at 1,941-57 feet, shot with 15 quarts, pumped 431 bbls. in 24 hours. Nollem & Benoist No. 1 Kelly, NE NW NE Section 25-4s-2e, had Benoist sand at 2,865-2,706 feet, which showed some oil; had a hole full of water at 2,817-22 feet; found a pay at 3,002-07 feet from which the well flowed by heads. It was acidized with 3,000 gallons and swabbed 450 bbls. of oil the first day; pumped 250 bbls. the second day and 180 bbls. the third day.

New Operations

First reports on new operations include the following locations, rigs and drilling wells:

In Jasper County, Kingwood Oil Co. and others No. 1 J. Harrison, C W half SW SW Section 2-7n-10e, rig.

In Clinton County, Blosser, Bolen and others No. 1 Ed Carson, SE SW NE Section 34-2n-1w, a wildcat, rigged up; John F. Ryan No. 2 Brinkman, Lot 5, Block 2, Pullen subdivision, NE cor. NW SE SE Section 13-1n-1w, set pipe at 593 feet and drilling; Ashby No. 1 Henry Spear, Lot 31, Block 4, Pullen Heights, NW cor. NE NW NE Section 24-1n-1w, spudded; Hester & Graham, No. 1, Lot 15, Block 8, Finney Heights, SE NE NE Section 24-1n-1w, drilling below 500 feet; Milhahan No. 1 Hallitt, Lot 18, Block 4, NW NE NE Section 24-1n-1w, rigged up; Pekros & Nixon No. 1, Lot 15, Block 6, Finney Heights, SW NE NE Section 24-1n-1w, drilling at 60 feet; Snowden & Oliver No. 1 Snowden, Lot 12, Block 7, Finney Heights, SE NE NE Section 24-1n-1w, rigged up.

In Clinton County, Farrelly and others No. 1 Bergman, NW SW NW Section 30-1n-3w, rigged up machine; Harris and others No. 1 Hage, a wildcat, C S half SE SE Section 18-1s-5w, machine.

In Fayette County, Carter Oil Co. No. 5 L. Wood, SW SE NW Section 15-8n-3e, location.

In Edgar County, Elmer Lapsey No. 1 B. Roll, SW SW NE Section 17-14n-13w, drilling below 80 feet.

In Macoupin County, H. W. Livingston No. 1 Lippold, CEL NE SW Section 21-9n-8w, drilling below 250 feet.

In Montgomery County, Baker & Martin No. 1 Satterlee, NE cor. SW SW SW Section 3-8n-5w, location.

In Washington County, E. C. Lang No. 1 Paul, a wildcat, 800 feet from south and 1,220 feet from east lines of NE quarter Section 29-3s-5w, drilling below 800 feet; Thompson Drilling Co. No. 1 Roznowski, SE NE NW Section 19-3s-1w, set 13-inch at 82 feet and drilling.

In Effingham County, Carter Oil Co. No. 1 S. E Tenney, SW SE SW Section 31-9n-4e, location.

In Fayette County, Bob Hunt and others No. 1 Long, CNL SE NE SW Section 31-8n-3e, Louden townsite, rig up; Magnolia Petroleum Co. No. 1 Buzzard, NE SW NE Section 28-8n-3e, location; J. P. Babcock No. 4 Rhodes, 1,320 feet from north and 165 feet from west lines of SW quarter Section 27-8n-3e, rig; Minerva Oil Co. No. 1 Richardson, NW NW NW Section 21-7n-3e, spudded; Thayer and others No. 1 Morrison, NE NW NE Section 19-7n-3e, drilling below 800 feet; L. L. Blomgren No. 3 Owens, SW NW SW Section 9-7n-3e, location; W. M. Angle No. 2 Ferguson, 375 feet from north and 1,240 feet from west lines of NW Section 18-7n-3e, spudded; W. M. Angle No. 1 Ferguson, 185 feet from north and 1,240 feet from west lines of NW quarter Section 18-7n-3e, set 5½-inch casing at 1,510 feet; Carter Oil Co. No. 1 N. M. Hopper, NW NE SE Section 6-7n-3e, location; Kingwood Oil Co. and Duncan No. 5 Yolton, SW SW NW Section 7-7n-3e (corrected); Kingwood and Duncan No. 6 Yolton, 300 feet from south and west lines NW quarter Section 7-7n-3e (twin to No. 5), location; A. J. Hansman No. 1 Stinebring, NE NW SE Section 12-7n-2e, drilling below 500 feet; Kingwood Oil Co. No. 1 J. Smith, 192 feet from north and 330 feet from east lines of Section 13-7n-2e, rig.

In Richland County, the Texas Co. No. 3 Winters, 990 feet from south and 393 feet from east lines of NE quarter Section 27-4n-10e, rig.

In Marion County, Adams Oil & Gas Co. No. 4 Ballance, 1,295 feet from north and 230 feet from west lines SW quarter Section 28-4n-1e, Benoist sand at 1,-432 feet, coring ahead.

In Clay County, Pure Oil Co. No. 4 B. Travis B, C W half NE NE Section 32-3n-8e, set 9⅝-inch casing at 231 feet and drilling. Pure No. 2 C. O. Duff A, C N half NE SE Section 32-3n-8e, cellar and pits; Pure Oil Co. No. 3 J. H. Smith, SE NW SW Section 33-3n-8e, set 9⅝-inch pipe at 230 feet, drilling; Pure Oil Co. No. 1 William Rule, C N half SW NE Section 7-2n-9e, cellar and pits; Pure Oil Co. No. 1 J. J. Smith, C W half NW SE Section 17-2n-8e, cellar and pits; Pure Oil Co. No. 2 C. E. Bates, C E half NW NE Section 16-2n-8e, rotary tools in; Pure Oil Co. No. 6 Tetrick A, C E half NE NW Section 9-2n-8e, set 9⅝-inch casing at 232 feet, drilling; Pure Oil Co. No. 5 Scrugham, C E half NW NW Section 9-2n-8e, set 9⅝-inch casing at 227 feet, drilling; Pure Oil Co. No. 1 Tetrick Consolidated, C W half SE SW Section 4-2n-8e, rigged up.

In Marion County, Vickers & Lilly No. 1 Brooks, SE cor. NE NW SW Section 29-2n-2e, rigged up machine; I. D. Lane No. 2 Dempsey, NE NE SW Section 31-2n-2e, spudded; Texas Co. No. 1 Stonecipher, SW SE SW Section 32-2n-2e, rig up; Max Conrey and others No. 1 West Nation School, a wildcat, 60 feet from south and 150 feet from west lines of NE quarter Section 33-2n-2e, drilling below 900 feet; Robertson & Gray No. 1 Young Church, SW cor. NW Section 21-2n-2e (1-acre tract), location; Wanner and others No. 1 Young School, NE cor. NW SE Section 20-2n-2e (1-acre tract), location.

In Clay County, Pure Oil Co. No. 1 O. A. Towns, C E half NW NE Section 27-1n-7e, cellar and pits; Pure No. 3 Schiele A, C E half SE SW Section 22-1n-7e, rig.

In Marion County, the Texas Co. No. 3 Canuil, SW NE NE Section 6-1n-2e, rig up; Texas Co. No. 2 C. Reed, 320 feet from north and 340 feet from east lines of NW quarter Section 5-1n-2e, location; Broddus & Vickers No. 2 Rebstock, Lot 2, Block 85, R. R. Addition, SW SW SW Section 18-1n-1e, set 8-inch casing at 620 feet, drilling; Bert Field No. 3 M.&I.R.R., Lot 6, Block 85, R. R. Addition, SW SW SW Section 18-1n-1e, drilling below 650 feet; Ed Lang No. 1 Dr. Plassman, Lot 6, Block 30, SW SW NE Section 18-1n-1e, on

(Continued on Page 84)

3 McClosky Dry Holes in Birk City Pool and 500-Bbl. Well

OWENSBORO, Ky., Aug. 29.—Major Oil Co., with a 500-bbl. well on the pump, had the best completion in the Birk City district in the past week. The well, No. 1 Sanders Community, is on the Daviess County side of the field. McClosky lime was barren in three tests, one in Daviess and two in Henderson County, and other wells were testing the McClosky.

The largest deal ever made in Union County involving oil and gas rights was consumated when N. J. and Rob Waller sold one-half of their one-eighth royalty in 386 acres on Wabash Island to Ivan White and George Nelson, Evansville, for $10 an acre or $3,860.

The sale was prompted by drilling activity of the Sun Oil Co. on the W. W. Gray farm in Point Township, Indiana, across the Ohio from the Wabash Island tract. The deal followed the Sun Oil Co.'s purchase of a lease owned by Union County which extends along the river front adjacent to Point Township.

Following were the completions and near completions and first reports on new operations in the Western Kentucky fields in the past week:

Daviss County, Birk City district: Benedum & Trees and others No. 1 Mrs. W. S. Calhoun and others, small well in Cunningham sand at 1,700 feet, McClosky lime dry, total depth 2,006 feet. A. C. R. Oil Co. No. 1 Graham, Duncan, Bennett Lot estimated 50 bbls per day in Jackson sand at 1,505 feet, drilling deeper to McClosky. J. R. Speary and others No. 1 R. M. Hagan 52 acres, moved in cable tools to drill in. Aetna Oil Service Corp. No. 1 G. M. Morrison, filled up 500 feet when 5 feet in McClosky saturation. Major Oil Co. No. 1 Sanders Community lease, acidized with 1,000 gallons, pumped 500 bbls. per day. Utict district: L. C. Young No. 1 Salem Davis, rigging up. Ellis & Daugherty No. 1 N. C. Howard and Rex O'Flynn, 40 bbls. per day from Jett sand 1,080-1,104 feet. Whitesville district: Joe Lang and others No. 1 Frank Fore, 60,000 feet of gas, Jett sand 572-90 feet, plugged and abandoned. Floral district: Joe Lang and others No. 2 Hazel, dry through Jett sand, total depth 590 feet. Oklahoma district: Ellis & Ashby No. 2 T. Howard, moving in. Hewletts' Store district: Staves Drilling Co. No. 2 Hunter Brothers, spudding in.

Henderson County, Birk City district: Hoosier Drilling Co. No. 7 C. T. Blackwell, drilling in McClosky pay. Carter Oil Co. No. 5 O. L. Boswell, drilling at 300 feet. Aetna Oil Service Corp. No. 2 C. A. Dempewolf 43 acres, set surface pipe. Cumberland Petroleum Co. and others No. 4 Francis Dempewolf 37 acres, drilling in McClosky lime. W. E. Hupp and others No. 1 K. A. Jones 189 acres, Cummingham Heirs Mineral Reserve, water in McClosky lime, after gun perforating of Jett sand well was abandoned, total depth 1,909 feet. Carter Oil Co.-W. E. Hupp and others No. 2 Mauzy-Gatewood, moving in. J. C. Miller, Trustee, No. 1. O. W. Rash Heirs, dry hole, McClosky oil showing at 1,908-11 feet, total depth 1,980 feet, plugged. Baskett district: H. H. Vickers and others No. 1 S. A. Banks, moving in. Spottsville district: Magnolia Petroleum Co. No. 1 Sam L. Green, good Jett sand saturation at 1,525 feet, going deeper to McClosky.

McLean County, Island district: South Penn Oil Co. No. 6 Alma Nall, 50 bbls. per day from Jett sand 1,430-48 feet; No. 7 Nall, moving in. Semiway district: L. C. Young and others No. 3 C. S. Vickers, moving in.

Muhlenberg County, Ennis district: Porter Evans and others No. 1 Craig Heirs, drilling at 800 feet. Paradise district: South Penn Oil Co. No. 3 Rogers-Crescent Coal Co., deep test, drilling at 3,709 feet, bottom of black shale 3,386 feet.

Ohio County, Ralph district: A. Teller, Trustee, No. 4 Archie Dickens, moving in. Fordsville district: A. J. Stewart and others No. 21 E. S. Dunn, spudding in. Taffy district: Western Kentucky Petroleum Co. No. 40 Mary Elmore, spudding in.

Hancock County, Goering district: Flesher, Galey & Pollack No. 1 John Young 8,000 acre tract, Newman Mineral Reserve, moving in.

Butler County, Mount Zion School district: Dr. Smith No. 1 Jess Arnold, drilling at 105 feet. Porter Evans and others No. 8 E. G. Harper, east tract, 20 bbls. per day, Jett sand, total depth 172 feet. Cumberland Petroleum Co. and others No. 1 E. V. Harper west tract, 30 bbls. per day, Jett sand, total depth 174 feet; No. 2, drilling at 150 feet. Silver City district: Porter Evans and Fred Phillips No. 1 Tuley Clements, dry hole, total depth 492 feet. Rochester district: Jess Ashby and others No. 1 W. A. Tanner School Lot, spudding in. Frank Bernier No. 4 Kyle Willis, 40 bbls. per day, Jet sand, 856-85 feet.

"Bake is the Perfect Material for Guide Shoes!"

Fig. 411

FABRIC Bakelite is a shock-resistant material which is particularly adaptable to Guide Shoes, as it cannot be fractured or broken by collision or contact with obstruction in the hole.

In fact, Bakelite is *stronger* and *tougher* than any other material which could be used for this purpose. Larkin Bakelite Guide Shoes, under actual compressive test, withstood 49% greater pressure than concrete guides.

Yet Bakelite is very *light*—it has only half the weight of concrete—it is more easily pulverized by the drill and circulated out of the hole.

The Steel part of Larkin Bakelite Guide Shoes is made from .60 carbon steel billets, having 77,000 lbs. tensile strength. Hob cut threads guarantee perfection as to pitch and taper. Each shoe is bevelled for welding. Shoes can be threaded with any casing thread, including Hydril, Spang Extreme Line, or the new Round (Drill Pipe Form) Thread.

From the standpoint of 100% efficient performance—specify Larkin Bakelite Guide Shoes.

At ALL Supply Stores

LARKIN PACKER COMPANY, INC.,
ST. LOUIS, U. S. A.

LARKIN PACKER CO.

Eastern Field Report

By STAFF CORRESPONDENT

19,000,000-Foot Gasser in Deep Pay in West Virginia

PITTSBURGH, Pa., Aug. 29. — Creating additional interest in the development work on the Chestnut Ridge anticline in Fayette County, Southwest Pennsylvania, Peoples Natural Gas Co. is moving in a rotary outfit to test the Piedmont Coal Co. tract in South Union Township. Loffland Brothers, of Tulsa, are the contractors. This is the second test to start on this structure in successive weeks.

It is 1,265 feet south 50 degrees 35 minutes west of the No. 2 Summit Hotel (Heyn) gas well. It is on the Uniontown Quadrangle, approximately 2,745 feet south 53 degrees 30 minutes west of the intersection of National Route 40 and the Jumonville Road. It will start on surface at approximately the base of the Berea sand. It will also add information to the effectiveness of rotary drilling in comparison with standard tools through the shales as the most recent test made excellent time to the Onondaga limestone with cable tools.

At present on this structure, the New Penn Development Co. and William E. Snee have a rig about completed for a test of the Indian Creek Coal & Coke Co.'s William Johnson warrant, 2 miles southwest of No. 2 Summit Hotel (Heyn). In North Union Township, Wasson & Co. are drilling at 5,750 feet on the J. H. Sorg farm.

Over 9 miles southwest, on the structure in Springhill Township, Fayette County, L. J. Houze Convex Glass Co. shut down at 6,682 feet in the test on the Paul Dunham farm, and will set casing at that depth. Onondaga lime was topped at 6,628 feet, with the Huntersville chert not showing in the last run, and caves above this lime necessitating the casing.

During the week, 22 operations were completed of which 3 were dry holes, 11 gas wells, and 8 producers with a daily initial of 110 bbls. There was one large Oriskany sand gas well in West Virginia and most of the new production was in Southeast Ohio.

SOUTHEAST OHIO

The best producer for the week in Southeast Ohio was the test of Kundtz-Hulse, Inc., and others on the Ora E. Booth farm, Section 18, Fallsbury Township, Licking County. It was drilled in the Clinton sand at 3,062 feet and was shot. After 48 hours 50 bbls. of oil was swabbed from the test. In Section 2, Perry Township, Licking County, George H. Long completed a second test on the Granville Ashcraft farm in the Clinton sand, total depth 2,961 feet, and it produced 20 bbls. the first 48 hours after shot.

In Coshocton County, the Preston Oil Co. drilled a test on the Douglas Speckman farm in the southwest quarter of New Castle Township through Clinton sand to 3,364 feet and it was dry. The sand was topped at 3,310 feet.

In Knox County, Ridgeway Brothers and others drilled a test on the C. V. Banbury farm in Section 6, Union Township, in Clinton sand at 2,800 feet and it produced 6 bbls. the first day before shot. After shot, the hole bridged and the tools are fast in the hole with the well making about 25 bbls. a day. In this township, in Section 23, Ohio Fuel Gas Co. completed a test on the P. A. Lower farm in the Clinton sand, total depth 2,960 feet, and it is a gas well gauging 900,000 feet a day. In Jackson Township, Knox County, Section 10, C. A. Davis and others completed a second well on the Artie Jones farm in Berea sand at 940 feet and it is gauging 75,000 feet of gas per day.

In Licking County, Stricker & Armbuster have a 2-bbl. well on the I. M. Porter farm in Section 8, Mary Ann Township, in Berea sand, total depth 602 feet.

In Medina County, Preston Oil Co. completed No. 7 L. A. Severcool, Section 5, Chatham Township, in the Berea grit at 390 feet. It produced 20 bbls. the first day after shot.

In Perry County, C. Z. Ruth completed No. 21 William Nuzum, in Section 28, Monroe Township, in Berea sand at 1,086 feet. It produced 6 bbls. the first day after shot.

In Washington County, E. F. Montgomery No. 4 Charles F. Gross, in Section 37, Salem Township, was completed in the Macksburg 700-foot sand at 901 feet. It produced 2 bbls. the first day without a shot.

In Trumbull County, Norwood P. Johnston and others are drilling in the Clinton sand in the test on the G. M. Porter farm west of the crossroads at Mecca in Mecca Township, but broke a bit and now have a fishing job.

WEST VIRGINIA

In Clay County, West Virginia, Virginian Gasoline & Oil Corp. completed No. 47 Brown, Swan, Goshorn and Geary tract, in Henry district in Injun sand at 2,016 feet, and it is showing for 10 bbls. a day.

In Cabell County, R. H. Adkins, trustee, completed the M. H. Wheeler test in Grant district at 2,190 feet. Big Injun lay at 1,640-1,705 feet, and Berea at 2,153-73 feet, with gas gauging 308,000 feet a day, 72 hours after the shot, with a rock pressure of 480 pounds.

In Calhoun County, O. D. Jones completed the second well on the Ira Parsons farm in Washington district, at 2,105 feet, gas at 2,035-2,105 feet and oil at 2,050-2,105 feet. After a 180-quart shot, it gauged 1,000,000 feet of gas a day and 1½ bailers of oil in 15 hours.

In Clay County, Pittsburgh & West Virginia Gas Corp. completed No. 7664, B. F. Hall farm, in Otter district. The Salt sand was at 1,486-1,516 feet, with gas gauging 1,247,000 feet a day.

In Fayette County, Godfrey L. Cabot, Inc., drilled No. 11, Kanawha Gauley Coal & Coke Co. land, in Falls district, to 2,503 feet and it was dry and will be abandoned.

In Harrison County, Washington Gas Co. completed a test on the Columbus Riley farm in Coal district at 3,470 feet, Gordon sand, and it is a gas well gauging 250,000 feet a day.

In Nicholas County, Hope Natural Gas Co. completed No. 7794, Lewis Land & Coal Co. tract, Jefferson district, at 1,977 feet, and it is a gas well, gauging 165,000 feet a day.

In Upshur County, French Creek Oil & Gas Co. completed a test on the C. L. Sees farm in Meade district, as a gas well at 3,926 feet. The Benson sand was at 3,869-3,917 feet, with the gas at 3,874 feet.

In Wetzel County, Hazlett Brothers & Conley completed No. 3 Lane Mason, in the Proctor district, in Cow Run sand at 535 feet and it is a gas well gauging 1,000,000 feet a day. Here, George Myers was drilling at 150 feet on the Percy Wells, Proctor townlot. The Wasmuth Callahan Gas Co. and Burgess were down 350 feet on the Frank Ritz farm, townlot. Fauber & Henry made a location on the Ida C. Henry farm. G. L. McIntire and others were drilling at 950 feet in No. 1 Clark Parsons. Matthew Hazlett and others have a rig up on the Catherine V. Hazlett farm. Wade Miller and Lewis are building a rig on the Clarence Blatt farm.

Oriskany Gas Field

In Poca district, Kanawha County, another fair gas well was completed. The South Penn Oil Co. topped the Corniferous lime at 4,984 feet; Oriskany 5,093 feet; first gas 5,099 feet; total depth 5,121 feet and a final gauge of 19,000,000 feet a day.

No new locations were announced during the week. In Poca district, the United Fuel Gas Co. topped the Corniferous lime at 4,989 feet in the No. 4791 W. J. Glass, and at 4,886 feet in the No. 4788 I. W. Cavender. In the No. 4787 W. J. Glass, this company is drilling at 4,800 feet. This company has nine other wells drilling in this district.

The Mullins Gas Co. has four wells drilling in Poca district. The J. C. Fisher and others test is drilling at 4,275 feet; W. H. Odell test at 4,135 feet; Earl K. Johnson test at 1,965 feet, and the Manfred Fisher and others at 1,785 feet.

The West Virginia Gas Co. is drilling at 4,707 feet in the Spencer-Canterbury test, and at 3,080 feet in the Fisher-Newhouse test. The Hayes Oil & Gas Co. is down 1,175 feet on the H. C. Painter farm, and has a rig up on the F. M. Ray farm.

In Elk district, Columbian Carbon Co. was drilling at 5,023 feet in No. 12 C. W. Vickers; at 2,951 feet on the W. B. Fogarty land; at 1,573 feet on the Bratton Hanna farm. The United Carbon Co. had reached 4,085 feet in the I. C. Miller test, and 150 feet in the Van Canterbury test.

Deep Tests

In Pleasants County, the Columbian Carbon Co. is still fishing in the test on the Giles Hammat heirs farm in Grant district, after reaching a depth of 4,100 feet. One joint of casing and the tools are still in the hole, requiring a fishing job. About 2,500 feet of fluid from the oil shales stands in the hole.

In Jackson County, Joe Rubin tested the shut-in pressure in the Oriskany gas well on the W. J. Brown farm on the Ohio River in Ravenswood district, at 1,400 pounds. The open flow tested at 100,000 feet which froze down to about 40,000 feet. A 40-quart shot was placed over 20 feet of the sand and tamped with sand. No test has been made since the shot as the hole was filled with water and is now being cleaned out.

New Work

New locations include the following:

In Brooks County, Austin Saunders on the Mahan heirs in Cross Creek Township, elevation 713 feet; in Buffalo Township, J. R. N. Miller & Co. on the Wheeling Steel Corp. (Robert Miller).

In Calhoun County, McIntosh and Grimm on the Columbia Kimble farm in Sherman district, elevation 1,110.72 feet; M. C. and G. K. Rogers Nos. 8 and 9 on the D. M. Miller, in Sheridan district.

In Gilmer County, K. M. Hunt and others on the Fletcher Stout farm, in Center district, elevation 850 feet; in Glenville district, McIntosh and Grimm, for No. 2 M. B. Morris, elevation 854.44 feet.

In Marshall County, Clara V. Moore for No. 3 D. H. Arrick Estate, Franklin district, elevation 987 feet; Graham Brothers on the Jacob Daugherty farm, elevation 646.5 feet; in Liberty district, Carnegie Natural Gas Co. deepening No. 728 T. C. Pipes (Franklin Crow).

In Pleasants County, Maxton Oil Co. on the Noah Williamson farm in Lafayette district, elevation 972 feet.

In Ritchie County, Grant district, Burge Drilling Co. on the Augustus and Bruce Weekley farm, elevation 855 feet, and Dozer and Swingle for No. 3 George Morris, elevation 880 feet.

SOUTHWEST PENNSYLVANIA

In Amwell Township, Washington County, Pennsylvania, Harry Williams & Co. completed the test on the Dean Swart farm at 1,113 feet with the Big Dunkard topped at 1,093 feet and 300,000 feet of gas showing at 1,011-1,111 feet.

In Fayette County, the test of Doctor Spear and others on the Ernest Hibbs farm in Menallen Township, about 1,500 feet southwest of the gas well on the Springer farm, drilled through the Injun sand

(Continued on Page 88)

Southwest Texas District

By
F. L. SINGLETON

South Alice Pool Is Extended by Good Well in a New Sand

CORPUS CHRISTI, Tex., Aug. 29.—The South Alice field, Jim Wells County, was again placed in the limelight of Southwest Texas operations as an outpost, 2 miles southwest of production, was completed in a new sand for a good producer.

The strike was made by H. H. Howell with the completion of No. 1 Mosser, Lot 97, L. G. Collins Farm Lots subdivision. This well found the discovery horizon (5,200-5,300 feet) dry, and was drilled to 7,280 feet before the hole was plugged back to 4,799 feet. Five and one-half inch casing was cemented at 4,880 feet and the well was completed through perforated casing at 4,786-98 feet. While the well was shut in for storage shortly after it had cleaned itself and no accurate gauge was available, it was reported that it was capable of making from 160 to 200 bbls. per day through a three-sixteenths inch choke. Tubing and casing pressure at the time the well was closed in was 580 pounds and 1,275 pounds respectively.

Finding commercial production in this shallow sand is somewhat of a surprise to many of the operators in view of the fact that the sand carried gas or salt water in the field proper. Sand conditions throughout the field have been rather erratic and for this reason, the potentiality of this shallow sand is expected to be confined to a small area.

The south extension area of the field was apparently extended three-quarters of a mile south as Pratt & Browning were running casing after a 10-minute drill stem test at 5,289-5,300 feet, recovered several hundred feet of pipe line oil.

No additional showings were reported from two important wildcats being drilled by Shell Petroleum Corp. on the southeast Premont prospect, and Humble Oil & Refining Co. in the Ben Bolt area. Both tests have shown evidence of production on drill stem tests.

La Rosa Outpost Looks Good

In the newly opened La Rosa field, Refugio County, I. J. Allen No. 1 Mrs. Birdie Driscoll Rooke has indicated a 6,000-foot southeast extension as it showed considerable pressure and some distillate on two drill stem tests. The first test at 5,365-77 feet tested 365 pounds of pressure and 15 feet of mud, cut with distillate and the second test at 5,377-97 feet, tested 365 pounds of pressure and 10 feet of distillate-cut mud. The well is being cored ahead after a third test at 5,415-20 feet showed 1,860 feet of salt water. This well was the first drilled on the structure by I. J. Allen and was abandoned at 4,600 feet. After the second well was completed for a distillate producer, the rig was then moved back to the original hole.

A deeper sand in the Saxet field, Nueces County, was opened with the completion of Hiawatha Oil & Gas Co. No. 8-B Smith, which was completed for an initial production of 8 bbls. per hour through a 5/32-inch choke with tubing pressure 1,150 pounds and casing pressure 1,500 pounds. The hole is bottomed at 7,468 feet and production was obtained by perforating casing at 7,261½-64½ feet.

Sun Oil Co. No. 2 McCann extended the Luby field several hundred feet to the south when it flowed 34 bbls. of oil in seven hours through various chokes. The well is producing through perforated casing at 5,055-58 feet. Location is in Share 9-G, Canutillo Colony Ditch Co. Survey.

One of the largest deals reported from the district in several months, and which is expected to revive drilling in the Stratton field, Nueces County, was consumated when the Corpus Christi Corp. purchased the holdings of John F. Camp. The consideration is reported to be close to $1,000,000 and involves leases on approximately 8,300 acres, on which are six distillate producers. The purchaser has let contract for a $500,000 recycling plant which will have a daily capacity of 50,000,000 feet of gas per day.

Several Wildcat Failures

Several wildcats throughout the district which last week loomed as possible pool openers proved to be failures. One of the biggest disappointments was the abandonment of Standard Oil Co. of Texas No. 1 Dolores Garcia in Duval County which was quit at 7,118 feet. The well was located on a highly regarded prospect and cored several sands but they had slight oil showings. In view of the fact the well checked several hundred feet structurally high, additional development is expected to be started in the future.

The Tesoro field, Duval County, received its second producer as Rowan & Hope No. 1 Cuellar, a north offset to the discovery well, flowed 150 bbls. per day through a 5/32-inch choke with casing pressure 1,300 pounds and tubing pressure 660 pounds. It is producing from the Pettus sand through perforated casing at 5,073-84 feet.

Along the Pettus trend in Bee County, Atlantic Refining Co. No. 1 Courtney, northwest of Pettus, George Kerr Survey, is shutdown waiting for orders after the hole was swabbed dry from the Pettus sand bottomed at 3,660 feet. The well is reported to have shown some oil, but no pressure. Showings of oil and gas were cored from 3,658-60 feet. Along the same trend and located in the Henry Coley Survey, Devonian Oil Co. is drilling below 3,318 feet in No. 1 Maley.

First production test of the deep sand in Union Sulphur Co. No. 11 American-Rio Grande, an outpost in the Mercedes field, Hidalgo County, showed salt water and the company was preparing for a second test. Casing was perforated at 9,420-30 feet and the second test will be made at approximately 9,400-10 feet. This is the deepest sand ever tested in the Laredo district. North of the Samfordyce field, Phillips Petroleum Co. No. 1 Flores is drilling below 7,369 feet. The well is scheduled to be drilled to 7,500 feet before it makes a test of several showings that were logged below the 2,800-foot sand.

In the Balcones Fault Line district, George E. Smith No. 1 San Antonio Joint Stock Land Bank, 6 miles northeast of Pearsall, Frio County, has been abandoned after it tested salt water in the Navarro sand at 3,738 feet. This well showed promise last week of opening a field as good saturation was reported cored at 3,724-30 feet and at 3,730-38 feet. Interest in the county has shifted to the wildcat being drilled by Humble Oil & Refining Co. on the Schley lease in the Joseph Travalder Survey. It is a projected Edwards lime test, but will make a test of the Navarro section.

Western Gulf Petroleum Co. is cleaning out sand in No. 1 Vanegas, on the Anchorage serpentine prospect in Atascosa County. Serpentine, showing oil, was topped last week at 2,703 feet and cored to 2,748 feet. Seven-inch casing was cemented to 2,720 feet. The well failed to flow and when swabbed, several feet of sand was pulled into the hole.

A shallow field for McMullen County was indicated by the showing of Bruce Albright No. 1 Nueces County Land & Live Stock Co. Saturated sand was cored at 1,201-13 feet, the total depth and 4½-inch casing, the bottomed 12 feet of which was perforated, was cemented on bottom. The well is located in the B.S.&F. Survey, about 6 miles north of the Charamousca field.

COMPLETED WELLS
(24-hour tests)

Bastrop County

Hilbig field: Walden Oil Co. No. 1 Goertz, 2,654 feet, 3 bbls., pumping. Riddle field: Ogden & Riddle No. 1 Burton, 1,759 feet, 4 bbls., pumping.

Caldwell County

Salt Flat field: Luling Oil & Gas Co. No. 4 R. B. Carter, 2,555 feet, plugged back 3,392 feet, 100 bbls., pumping. Wiegand Brothers No. 3-A Briscoe, 2,721 feet, 60 bbls. oil, 40 per cent sulfur water.

Duval County

Benavides field: Frank Gravis No. 4-B Puig, sand 4,743-4,772 feet, 98 bbls., eighth-inch choke. Hiawatha Oil & Gas Co. No. 15 Parr, 4,760 feet, 121 bbls., 5/32-inch choke. Southwood Oil Co. No. 6 Rossi, perforated casing 3,900-04 feet, 77 bbls., eighth-inch choke. Standard Oil Co. of Kansas No. 4 Rossi, perforated casing 3,899-3,901 feet, 94 bbls., eighth-inch choke.

Casa Blanca field: Magnolia Petroleum Co. No. 6 Duval County Ranch Co., perforated casing 1,196-1,203 feet, 60 bbls., pumping. Fred Shield No. 3 Martin, sand 1,156-64 feet, 115 bbls., pumping.

Driscoll field: Continental Oil Co. No. 25-A Driscoll, sand 3,323-33 feet, 204 bbls., quarter-inch choke.

Eagle Hill field: W. E. Butler No. 7-B Foster, sand 1,494-1,504 feet, 135 bbls., pumping. Magnolia Petroleum Co. No. 5 Duval County Ranch Co., sand 1,489-99 feet., 65 bbls., jetting.

Fitzsimmons field: Houston Oil Co. No. 1 Fitzsimmons, perforated casing 4,314-28 feet, 164 bbls., quarter-inch choke. Porter Drilling Co. No. 1 Clara Driscoll, sand 4,326-32 feet, 125 bbls., 5/32-inch choke.

Hoffman field: Cox & Hamon and others No. 10 Cuellar Brothers, sand 2,561-91 feet and 2,708-17 feet, 192 bbls., half-inch choke; No. 27 Cuellar Brothers, 2,857 feet, 23 bbls. per hour, half-inch choke; No. 4 Hoffman, 2,735 feet, 8 bbls. per hour, half-inch choke.

Sweden field: Hiawatha Oil & Gas Co. No. 5 Miller, perforated casing 4,895-4,915 feet, 50 bbls., quarter-inch choke.

Guadalupe County

Darst Creek field: Chiquita Oil Co. No. 3 Tadlock, sand 2,632-47 feet, 113 bbls., pumping.

Hidalgo County

Samfordyce field: Weekly Oil Co. No. 3-C Guerra, sand 2,874-76 feet, 6 bbls. per hour, quarter-inch choke.

Jim Wells County

South Alice field: Blanco-Buchannan No. 1 Rattan, perforated casing 5,293-95½ feet, 131 bbls., eighth-inch choke.

McMullen County

South Calliham field: Bill Howard No. 12 Claunch, 1,073 feet, abandoned.

Medina County

Dunlay field: C. A. Johnston No. 1 Riff, 776 feet, abandoned.

Milam County

Rockdale field: Central Oil Co. No. 18 Smith, 655 feet, 8 bbls., pumping.

Nueces County

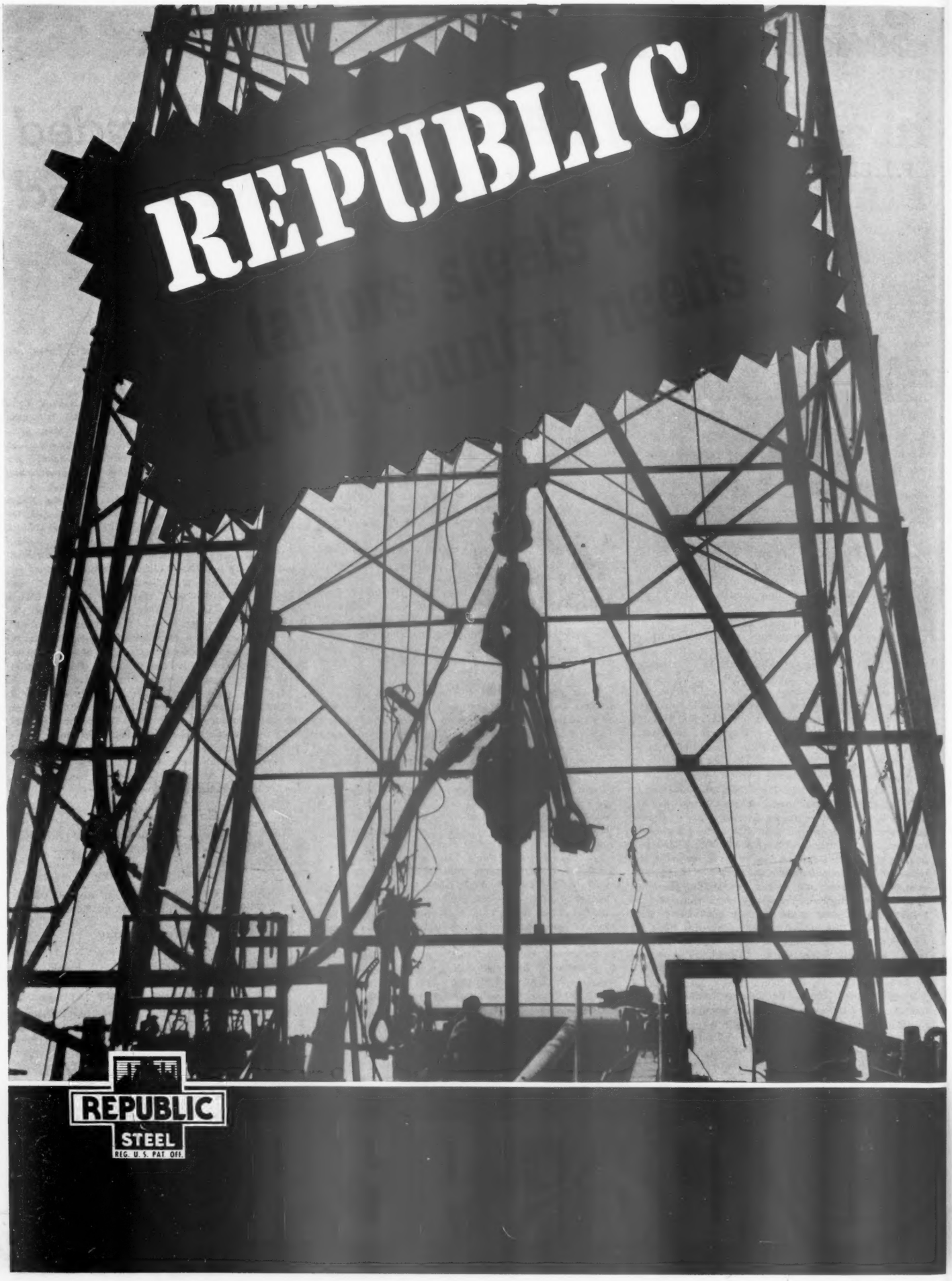
Clara Driscoll field: Heep Oil Corp. and others No. 2 Rogers, 5,349 feet, 98 bbls., 5/32-inch choke.

Luby field: Stanolind Oil & Gas Co. No. 12 McCann, 5,066 feet, 85 bbls., jetting.

Refugio County

Refugio field: Hewitt & Dougherty No. 73 Lambert,

(Continued on Page 88)


REPUBLIC
REPUBLIC
STEEL
REG. U. S. PAT. OFF.

AND PROVIDES A *"Complete Wardrobe"* OF PRODUCTS THAT WILL SAVE YOU MONEY

● At Republic you will find steel after steel processed specifically for oil country use. You will find steels unusually high in strength—steels that resist rust and corrosion—steels that retain their strength at elevated temperatures and resist oxidation—steels that can take severe punishment and the wear that comes from day after day of strenuous operation. You will find steels that are dependable, safe and low in service cost.

And you will find these steels fabricated into many of the products essential to oil country operations. You will find the most complete line of steels and steel products available for oil country use. And every product bearing the name "REPUBLIC" or the name of one of its divisions or subsidiaries is backed by a world-wide reputation for quality, uniformity and user satisfaction.

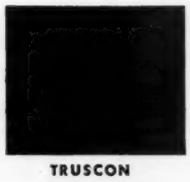
Look over the list of products below—and when you need any of them—or any product made of steel—think first of Republic or of a product made of Republic steels. For a complete list, write Republic Steel Corporation, Cleveland, Ohio.

REPUBLIC
CASING AND TUBING
LINE PIPE
MERCHANT PIPE

REPUBLIC ALLOY AND CARBON STEELS

REPUBLIC UPSON QUALITY HEADED AND THREADED PRODUCTS

ELECTRUNITE* BOILER AND CONDENSER TUBES



TRUSCON STANDARD STEEL BUILDINGS

ENDURO* STAINLESS AND HEAT-RESISTING STEELS

NILES STEEL SHIPPING CONTAINERS
TIN PLATE

REPUBLIC WIRE NAILS AND STAPLES

BERLOY* STEEL SHELVING BINS AND LOCKERS

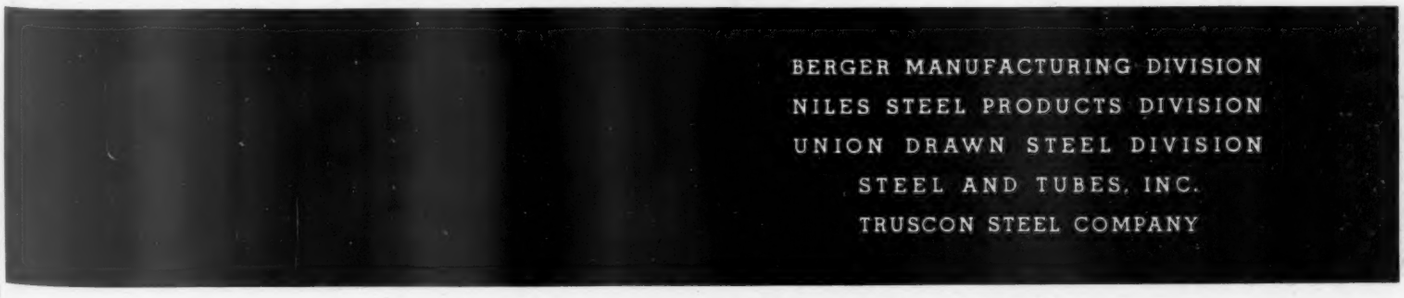
REPUBLIC SHEETS, LIGHT PLATES AND ROOFING PRODUCTS

REPUBLIC WOVEN WIRE FENCING BARBED WIRE AND STEEL FENCE POSTS

TONCAN* IRON CULVERTS AND SECTIONAL PLATE PIPE

TONCAN* IRON ENAMELING STOCK
(for service stations)

* Reg. U. S. Pat. Off.



BERGER MANUFACTURING DIVISION
NILES STEEL PRODUCTS DIVISION
UNION DRAWN STEEL DIVISION
STEEL AND TUBES, INC.
TRUSCON STEEL COMPANY

When writing Republic Steel Corporation for further information, please address Department OG.

North Louisiana, Arkansas

By GEORGE WEBER

Shreveport Field Drilling Is Put on a Conservative Basis

SHREVEPORT, La., Aug. 29.—A temporary order by the Louisiana Department of Conservation set spacing rules for the newly opened Shreveport field. The order stipulates that development of the field shall take place on a 10-acre spacing pattern within the city limits of Shreveport, and that outside those limits, 40-acre spacing will be enforced.

The order was awaited with considerable interest by residents and lease holders in the city and its vicinity. Although the terms may be later changed, since the order is a temporary one, some criticism is felt over the difference in treatment of acreage within and without the city limits. The consensus of petroleum engineers, geologists and oil operators was that a 40-acre spacing rule applied to the entire area would contribute to the most profitable development of the field both from the standpoint of the operators and the land and lease owners.

Following the order, permits were issued for two important tests to be drilled in the sector. R. E. Allison No. 2 Ellerbee, an offset to the same operator's No. 1, discovery well, and sole oil well to date, will be begun shortly. A wildcat, the outcome of which will have a most important bearing on the field's extent was also begun in the Broadmoor section of the city, about 7 miles southeast of the Allison well. This test, F. W. Martin and Superior Oil Corp. No. 1 Querbes, is rigging up and drilling is slated to begin shortly.

Cotton Valley Feature

Numerous other field developments in the tri-state area occurred during the week. Most important was the good possibility that the Cotton Valley field will soon have a second Bodcaw sand oil well. This is indicated by the coring of 38 feet of oil saturated Bodcaw sand in the North American Oil Consolidated Co. No. 1 Burrow, a northwest edge test in NE NW Section 21-21-10. The location of the outpost on the opposite side of the field from the Bodcaw crude discovery well, Stanolind Oil & Gas Co. No. 1 Pardee, contributes to the great importance of the new development, indicating the presence of a productive oil rim surrounding the gas and distillate area of Cotton Valley, which to date has been proven over a large area.

The North American test cored the "D" stringer at 8,555-73 feet, and the Bodcaw sand at 8,662-8,700 feet. A string of 7-inch casing has been set at 8,665 feet, with total depth at 8,725 feet, and a production test is due in the near future.

Carterville Test

The most important current deep test drilling in the tri-state section is Magnolia Petroleum Co. No. 1-C Pardee Lumber Co., C NW NE Section 17-23-11, Webster Parish, on the flank of the old shallow Carterville gas field. Top of the Pettit horizon in the lower Glen Rose formation was cored at 5,920 feet and a show of oil and gas is reported. Operators have set 9⅝-inch casing at 5,920 feet and a production test will be made early this week. The hole from about 1,900 feet has been found to be crooked, and operators set the 9⅝-inch casing as much for a protective string as for a production test.

When the Pettit was cored, it showed saturation for about 30 feet, and a drill stem test was attempted. This was unsuccessful. The lime shows up as fairly tight, and outcome of the test is unpredictable. Regardless, the operators plan to carry the deep test to the Cotton Valley formation as an exploratory wildcat.

Arkansas Activity

Developments in Arkansas during the past week were largely disappointing. The Schuler field of Union County received its first definite set-back, when a south edge test was abandoned dry in the Jones sand. The test, E. M. Jones No. 1 C. H. Murphy, in the northwest corner of Lot 6, NW Section 19-18-17, topped the Jones sand at 7,628 feet and the lime at 7,750 feet. The lime was cored to 7,789 feet and a Schlumberger survey was run. The well was abandoned dry at a total depth of 7,787 feet, showing an unexpected limit to the reservoir on the south edge. This is the first failure in the Jones sand in the Schuler field. Development on the north and northwest edges of the present production are meeting with success, as the structure is indicated to extend for a considerable distance beyond present limits in those directions.

Estimated Production

Estimated daily gross production all companies week ending August 26, 1938:

NORTH LOUISIANA

	Bbls.
Bellevue	560
Caddo light	4,040
Caddo heavy	2,475
Converse	550
Cotton Valley heavy	95
Cotton Valley light	*11,305
De Soto and Red River	1,370
Elm Grove	325
Haynesville	3,300
Holly	75
Homer	2,620
Lisbon	9,715
Pleasant Hill	100
Rodessa	34,865
Sarepta-Carterville	†540
Sligo	1,680
Sugar Creek	290
Urania	2,745
Zwolle	2,500
Total	79,150

SOUTH ARKANSAS

Buckner	1,385
Champagnolle	1,085
El Dorado	1,850
Lisbon	270
Miller County	380
Nevada	635
Rodessa	6,595
Schuler	23,630
Smackover light	2,070
Smackover heavy	16,055
Stephens	560
Troy	1,200
Urbana	1,175
Village	265
Total	57,155

Texas side of Rodessa field 30,365 bbls. daily.

*2,860 bbls. is distillate.
†240 bbls. is distillate.

Village Field

Salt water trouble continues in the Village field of southeastern Columbia County, Arkansas. The Standard Oil Co. of Louisiana No. 1 T. Crumpler, a north offset of the recently completed Fohs Oil Co. No. 1 Phillips, and a west offset to the discovery well of the field, is waiting for cement after squeezing below 7,395 feet. The test flowed 34 bbls. of fluid through a three-fourths inch choke earlier in the week, of which 33 per cent was salt water. The gas-oil ratio was 865 to 1, and casing pressure and tubing pressure were 1,100 and 730 pounds respectively. The well was killed and a further production test will be made in a few days. Total depth is 7,500 feet.

Parties interested in the Strong area of southern Union County, Arkansas, were disappointed at the failure of an important wildcat drilling in that area. The Joe Modisett No. 2 Union Sawmill Co., Section 8-18-12, was abandoned this past week in hard dense lime at 6,506 feet. Drill stem had been stuck previously, but it was loosened by lubricating with 150 bbls. of oil. The top of the anhydrite was cored at 5,993 feet, the top of the lime at 6,061 feet and the top of the oolitic lime at 6,067 feet.

Jefferson Extension

Jefferson's important southwest outpost test, which has attracted much attention during the past few weeks, turned out to be another gasser during the week. The Arkansas-Louisiana Gas Co. No. 1 Johnson, in the Alexander Johnson Survey, this week came in through perforations made in the Henderson sand, gauging 28,000,000 feet of gas with a tubing pressure of 420 pounds, and a casing pressure of 2,450 pounds. Previously, after testing salt water with a show of oil and gas at 6,130-40 feet in the Dees horizon, perforations were recemented and the casing shot at 6,121-25 feet, where a drill stem test made early in the month showed oil and drilling water. The production test, however, recovered only salt water with a slight show of oil and gas. After recementing and reperforating at 6,112-15½ feet the results were the same.

A packer was then set at 6,100 feet and following the squeeze job, casing was shot at 5,978-96 feet in the Henderson horizon, where the big gasser was completed. The area in which the No. 1 Johnson was drilled is heavily faulted, and the presence of possible oil production down dip from the two gassers to the southwest of the field proper is not easily predicted.

N. Y.-Penna. Gas Fields

COUDERSPORT, Pa., Aug. 27.—Three wells were completed, one of them a small gasser and the others dry holes, and the abandonment of four wildcat tests was included in the report of operations in the New York-Pennsylvania deep sand gas fields during the past week.

G. L. Cabot, Inc., completed the lone producer, its well on the Gibson farm in Woodhull Township, Steuben County, coming in for 738,000 feet per day. This well found the Oriskany at 3,602-30 feet and was completed at a total depth of 3,631 feet. The first gas was encountered at 3,606 feet.

Williamsport Oil & Gas Co. failed to find a productive formation in its wildcat on the U. B. Russell farm in Sharon Township, Potter County, and this test was plugged and abandoned as a dry hole at 5,297 feet. There was no sign of Oriskany sand.

The New York State Natural Gas Co.'s wildcat on the L. Dickerson farm in Gaines Township, Tioga County, was also completed as a dry hole. This test was drilled through the Oriskany at 5,396-5,407 feet and was completed at 5,424 feet.

Previous wildcats which had been shut down for some time and which were abandoned during the past week were: Evjen and others, Dusenberry farm, Watson Township, Warren County, 4,980 feet; and three New Penn Development Co. holes, on the Haupt farm, West Branch Township, Potter County, 5,700 feet; on the John Hill farm, same township, 6,454 feet, and on the Federal Land Bank farm, Dix Township, Schuyler County, 6,600 feet.

Allegany County in New York is now the most active area in the two-state fields with a total of six operations, one a new one begun during the past week. This is the Cunningham Natural Gas Co.'s test on the William Shear farm, 475 feet from the south farm line and 150 from the west road, in Willing Township. The surface elevation is 2,157 feet.

In other Willing Township drilling, Empire Producing Co. is drilling at 4,194 feet on the Floyd Wilson farm; Penn York, at 3,230 feet on the Cyrus Wilson farm, and Belmont Quadrangle Drilling Co., at 585 feet on the Hilligas No. 2 farm. The later company is also drilling at 1,454 feet on the A. H. Billings farm, Independence Township. Van Gelder and others are shut down at 4,727 feet on the J. O'Hara farm in Willing Township.

(Continued on Page 88)

9 Steps in Reconditioning a Gas Line by *"Shield-Arc"* Welding

Facts about the line: Located in central Ohio . . . 25 miles of 16-inch main gas line . . . Originally laid in 1911 with coupled 20-ft. lengths . . . all reconditioned by welding except a total of 1¼ miles of excessively corroded pipe which was replaced with new pipe.

1. After ditch was dug, pipe was lifted out and supported on timbers over ditch.

2. Coupling bolts were torch-cut and pipe was rolled away from ditch.

3. Pipe cleaning crew with hammers and chisels removed earth and rust scale. Corroded spots were well cleaned to expose sound metal.

4. An inspector chalk-marked all corroded areas which were to be built up with weld metal.

5. Four 20-ft. pipe lengths were joined into one 80-ft. section. Joints were plain end butt type with back-up ring. The pipe was lined up and tacked as shown.

6. Mounted on dollies, the pipe was roll-welded with two passes of 5/16" "Fleetweld 5," averaging 3 joints per hour per man. Each section was stress-tested and drop-pressure tested.

7. Corroded pits were filled in with 5/16" "Fleetweld 5."

8. Filled-in areas varied in size from small spots to large patches a foot square.

9. Majority of line was relaid without protective coating. It is claimed that the reconditioned line is in better shape than the original when new.

For further information on profitable applications of *"Shield-Arc"* welding, consult the nearest Lincoln office or mail the coupon.

Write for free bulletin

LARGEST MANUFACTURERS OF ARC WELDING EQUIPMENT IN THE WORLD

LINCOLN

THE LINCOLN ELECTRIC COMPANY
Dept. N-518, Cleveland, Ohio

Send free copy of ☐ Pipe Line Bulletin ☐ "Field Welding of Oil Well Casing" ☐ Welding Procedure Guide.

Name _____ Position _____

Company _____

Address _____

City _____ State _____

California Field Report

By
L. P. STOCKMAN

East Coalinga's Eocene Pay Due for Series of Oil Wells

LOS ANGELES, Calif., Aug. 29.—The East Coalinga field, where Petroleum Securities Co. discovered a new productive zone in rocks of Eocene age a few months ago, will begin yielding a series of new completions beginning next week when Petroleum Securities conducts a production test on No. 88-12-C Grimes in Section 12-20-15. This well logged the top of the Avenal zone at 6,758 feet and with present bottom at 6,786 feet the company is reaming preparatory to landing a string of casing. Top of the productive Avenal zone was logged in No. 2 Gatchell, the discovery well in Section 18-20-16, at 6,814 feet and the hole finished at 6,893 feet. This indicates that No. 88-12-C Grimes, northwest of the discovery well, is 56 feet higher on structure, and that other operators drilling tests in Section 12-20-15 should find commercial production in this zone. Superior Oil Co. No. 1 Hight in Section 8-20-16, north of the discovery well, failed to find the Avenal zone down to its present depth, 7,575 feet.

Universal Consolidated Oil Co. is nearing top of the Avenal zone in No. 1 Leavitt-Hintze in Section 12-20-15, and should pick up the sand shortly. This well is down 6,614 feet, and should have logged the productive zone some time ago. In the discovery well, top of the productive Avenal was found 103 feet below top of the Eocene, and No. 1 Leavitt-Hintze has already drilled more than 300 feet into the Eocene without finding the oil sand. Tide Water Associated Oil Co. has reached a depth of 5,341 feet in No. 66 Guardian in Section 12-20-15, but has not yet found the Kreyenhagen, which lies above the Eocene. Superior Oil Co. No. 1 Hight, running more than 900 feet lower than the discovery well, cored the top of the Kreyenhageen at 6,430 feet. No. 7-7-F of Petroleum Securities in Section 7-20-16, logged the Kreyenhagen at 5,538 feet and is rotating ahead at 6,100 feet. The Texas Co., testing a series of upper zones before drilling ahead to the Avenal zone in No. 19 Mohawk, found water in the third or lower member of the horizon, and has plugged back to 4,331 feet. A string of casing is being landed preliminary to testing the first and second members of the zone.

Torrance—Lomita

Completions in the Lomita, or southeastern, end of the Torrance field have been unusually small as far as initial daily production is concerned, and while no diminution of drilling is apparent, this is bound to curb development work is future completions fail to show relatively large initial production. The number of wells that require artificial stimulation to show production is increasing from week to week. The section of the Torrance field now undergoing development is a low pressure area but operators would feel a lot easier if completions came in with a kick sufficient to result in initials of 500 bbls. or better. Not one of the seven wells put on production in this field in the past week showed an initial production of 500 bbls. daily and two of the group showed less than 100 bbls. daily. Three of the seven wells were pumpers. The largest completion was Morton & Elder No. 1 Ritzer, finished flowing 470 bbls. of 26.6-gravity oil cutting 1.5 per cent through a 50/64-inch bean. It was carried to 4,993 feet, but plugged back to 4,955 feet before completion. The hole was finished with 264 feet of 5¾-inch liner including 248 feet of 140 mesh landed at 4,955 feet.

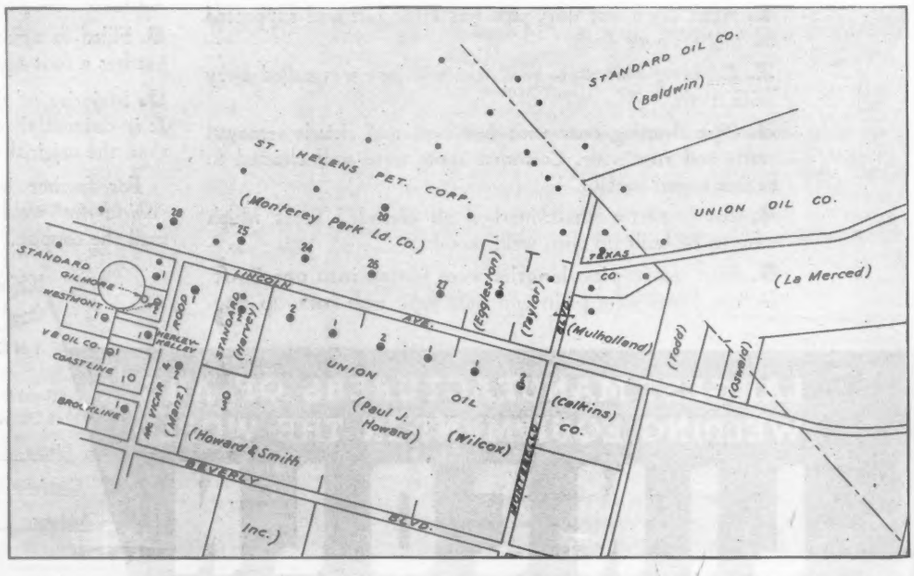
Star Petroleum Corp. completed two new wells. No. 1 Schatz was finished flowing 168 bbls. of 26.6-gravity oil cutting 3 per cent, and No. 2 G. & A. was completed flowing 145 bbls. of clean 26.7-gravity oil daily. The former was bottomed at 4,980 feet and the latter was brought in from 4,983 feet. No. 2 Marble of Pacific Western Oil Co., bottomed at 4,980 feet and finished with 216 feet of 5-inch liner including 92 feet of perforated, was good for 45 bbls. of 26.6-gravity oil per day on the bean. Sol Oil Co. No. 1 Lomita, most easterly completion in the field, was finished, pumping 280 bbls. of very clean 27.1-gravity oil daily from 5,144 feet after the hole had been plugged back from 5,202 feet. The hole was finished with 87 feet of 5-inch liner including 36 feet of perforated. Falmo Oil Co.'s initial attempt in the Torrance field, No. 1 Lomita, was completed flowing 267 bbls. of 26.7-gravity oil daily from 4,980 feet, and Imperial Gypsum Oil Co. No. 2, bottomed at 5,060 feet, was completed pumping 81 bbls. of 26.5-gravity oil cutting 2 per cent. Several wells in the Harbor City section where D. & B. Oil Co. found a productive zone are nearing the critical stage. There is still some doubt as to whether there is any connection between the Harbor City area and the Lomita section of the Torrance field. No. 1 Lermens of California Star Oil Co., located northwest of D. & B. Oil Co.'s discovery well, is drilling ahead in oil sand and shale at 5,298 feet.

Wilmington

Seven new wells and one recompletion were finished in the Wilmington field of Los Angeles Basin but only one showed large production. Hancock Oil Co. No. 12-B Harbor was completed flowing 2,450 bbls. of very clean oil per day with bottom of the hole at 4,048 feet. Production from the Ranger zone tests 15.6 degrees, and that from the Terminal zone tests 28.1 degrees. Hancock Oil Co. completed No. 25-C Harbor, flowing 380 bbls. of 16.1-gravity oil, cutting 3 per cent, from the Ranger zone at 3,020 feet. This well was finished with 500 feet of 8⅝-inch liner including 477 feet of 50 mesh landed on bottom and is flowing through a 1-inch bean. No. 1 MacKallister of Crail Brothers, Inc., was recompleted, pumping 110 bbls. of 29.2 gravity oil per day from the Ford zone, with effective depth of 5,560 feet. The hole was carried down to 5,718 feet and then plugged back to the completion depth, 5,560 feet.

Union Pacific Railroad Co. completed two new wells in the Ranger zone. These new wells were Nos. 88 and 89, the former flowing 220 bbls. of clean 18.9-gravity oil per day from 2,844 feet and the latter 510 bbls. of clean oil from 2,825 feet. Both were finished with 6⅝-inch liners with 8⅝-inch water strings landed at 2,635 feet and 2,609 feet respectively. No. 89 has 202 feet of 6⅝-inch liner including 151 feet of 50 mesh landed at 2,785 feet. Union Pacific is making preparations to start three new wells which will be designated as Nos. 91, 92 and 93 Offset. Allied Petroleum Corp. No. 22 is one of the most interesting drilling projects in this field due to having intersected a hitherto unknown fault at 3,450 feet. The hole has been carried down to 4,230 feet and preparations are under way to make an early production test. This well is located in a part of the field where the Terminal zone is not productive and production has been coming from the Ranger zone exclusively. The new zone looks very much like the lower Terminal zone which if true will result in additional development as completion of this well will extend the productive limits of the most productive zone. Allied No. 22 is near Seaside and San Diego streets in the town lot area.

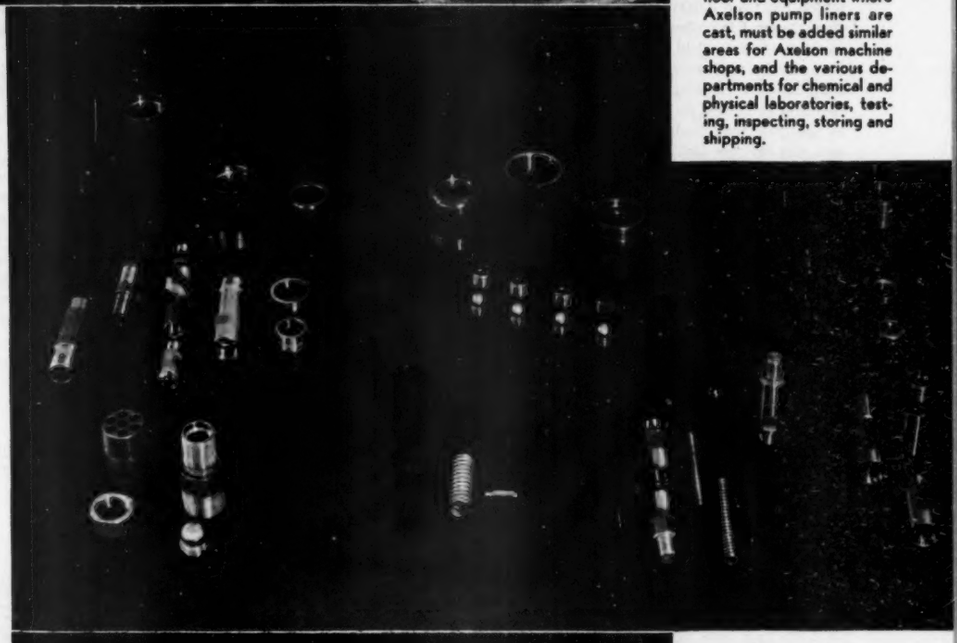
General Petroleum Corp., discoverer of the Wilmington field, completed No. 39 Harbor Community flowing 170 bbls. of 15.9-gravity oil per day from the Ranger zone at 3,010 feet. It was finished with 505 feet of 6⅝-inch liner including 416 feet of 50 mesh screen landed at 3,009 feet and 2,739 feet of 2½-inch tubing. General Petroleum Corp. has started rig construction for three wells and has location staked for five others on the Harbor and Channel leases. Location has also been staked for No. 17 Southern Pacific but this may not be drilled until No. 15 Southern Pacific has been completed. O'Kane & Brian completed No. 1-O Long Beach Harbor Department flowing 151 bbls. of clean 16.7-gravity oil through a 16/64-inch bean daily from the Ranger zone at 2,941 feet. The company spudded in No. 3-O Long Beach Harbor Department. Tideland development has not yet been reflected in production of this field but should become a factor within another 30 days. Signal Oil & Gas Co. has negotiated a lease with the Long Beach Dock & Terminal Co. whereby the former will be permitted to develop both the littoral and tideland



Seventeen excellent producing wells have been drilled in the western end of the Montebello field and a similar number will be finished before the close of the year, as drilling operations are consistently increasing

To this expanse of foundry floor and equipment where Axelson pump liners are cast, must be added similar areas for Axelson machine shops, and the various departments for chemical and physical laboratories, testing, inspecting, storing and shipping.

LIFE DEVOTED TO HELPING YOU LIFT OIL



The most important part of a pumping well is the ten to twenty feet of pump at the bottom. That's where your cost per barrel is fixed. Low cost is shown only by pumps that stand up and deliver against depth, heat, shock, sand, weight, pressure and corrosion—and all this with the least power.

More than a million man-hours a year are devoted in the Axelson factories to making pumps that meet these tough conditions. Axelson means dependable pumps in every oil field in the world — in every language — because for forty years the two Axelson passwords have been "details" and "precision." These are the qualities that make the parts that insure the whole.

Wherever oil producers are most determined to reduce time and costs, Axelson pumps are always used. They embody the results of a lifetime of the study of wells and pumps—of pioneering in pump improvements and the design of special machines to realize the improvements—of standardization that brings interchangeability — of laboratory control and continuous inspections for accuracy. Put an Axelson pump in the bottom of your well and you have a guaranty of low cost and long life.

AXELSON

DEEP WELL PLUNGER PUMPS · SUCKER RODS

AXELSON MANUFACTURING COMPANY — P. O. Box 98, Vernon Station, Los Angeles • St. Louis • 50 Church Street, New York • Tulsa
Mid-Continent and Eastern Distributor: Frick-Reid Supply Corporation
Rocky Mountain Distributor: Great Northern Tool & Supply Company
Foreign Representatives: "COSMOS" Soc. in Nume Colectiv, Bucharest, Roumania • *Direct Factory Representative,* Bucharest, Roumania • Industrial Agencies, Ltd., San Fernando, Trinidad, British West Indies *Factory Representative,* Maracaibo, Venezuela • Armco International Corp., Buenos Aires, Argentina

Hundreds of precision parts — thousands of controlled operations — come together in twelve types of Axelson deep well pumps, providing a pump of any size or length for any conditions in any well in the world.

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

deposits as a result of a deal made between the Long Beach Harbor Department and the Long Beach Dock & Terminal Co.

Rio Bravo

General Petroleum Corp. completed its first well in the Rio Bravo field and will soon start two more. No. 1 Wagoner in Section 35-28-25, flowed 2,760 bbls. of very clean 37.2-gravity oil and 1,900,000 feet of natural gas per day from the Rio Bravo zone at a depth of 11,510 feet. This well, which has been beaned back to 440 bbls. per day, was finished with a 6⅝-inch water string cemented at 11,292 feet and 270 feet of 4¾-inch liner including 207 feet of 100 mesh screen and 11,015 feet of 2½-inch tubing. It was brought in flowing through a 1½-inch bean and showed a tubing pressure of 1,250 pounds and a casing pressure of 1,500 pounds. Top of the pay was cored in this well at 11,340 feet which gives the well a total of 170 feet of productive formation. No. 2 Ramsey of George F. Getty, Inc., reported last week, showed a sustained potential of 6,960 bbls. of 35.9-gravity oil and 5,400,000 feet of natural gas per day before being beaned down to the allowable of 500 bbls. daily. The crew has been moved to No. 3 Ramsey. Superior Oil Co. No. 1 Helbling in the extreme southeastern end of the Rio Bravo field is going ahead at 13,927 feet and has consequently taken on a rather unfavorable outlook. It cored a zone immediately beneath the present productive Rio Bravo zone, but was unable to make it show commercial production. This outpost, by finding this additional zone, tends to indicate that the equivalent of both the upper and lower Vedder zones should be found by deeper drilling in the Rio Bravo field. Pending more data the productive horizon at Rio Bravo has been designated as the Rio Bravo zone rather than the Vedder, which has been found highly productive in the Mount Poso and Round Mountain fields along the eastern rim of the San Joaquin basin. Union Oil Co. should have No. 4-34 Kern County Land in the Rio Bravo field on production in a few days. No. 2-34 Kern County Land which has been delayed with mechanical trouble longer than General Petroleum Corp. No. 1 Wagoner has been causing Union's field department considerable anxiety because the well no sooner gets out of one fishing job than another develops. The well, bottomed at 11,204 feet and cemented on top of the pay, is being redrilled, as the crew was unable to remedy the collapsed casing and recover the string of tubing that became wedged as the casing pinched together. Union is running three strings of tools and has No. 6-34 Kern County Land scheduled to spud September 1 provided that No. 4-34 is on production by that time.

Ten Section—Greeley

Shell Oil Co. completed another excellent well in the Ten Section field of Kern County and should have two more ready for production tests within two weeks. Shell No. 2-32-B Kern County Land in Section 32-20-26, was completed flowing 2,493 bbls. of very clean 32.3-gravity oil and 2,000,000 feet of natural gas per day with bottom of the hole at 8,200 feet. This well, which is along the southern edge of the field, shows a tubing pressure of 135 pounds and a casing pressure of 950 pounds. Top of the pay was at 8,012 feet and the well was completed flowing through two 1-inch beans. Production has since been cut to 235 bbls. daily. Shell has three other wells in various stages of development and is rigging up rotary drilling equipment on another, No. 47-20-B. Standard Oil Co. has one well drilling in the Greeley field but has completed a new rig for No. 1 Elrich Community in Section 20-29-26, and will spud in as soon as rigged up. Superior Oil Co. has resumed drilling on No. 1 Krause in Section 21-29-26, and will carry this well down to the equivalent of the Rio Bravo zone which Standard proved existed in this field a few months ago. Superior No. 1 Krause, which has been standing suspended for several months, failed to pick up the productive zone in the Greeley field down to 8,205 feet.

Montebello

St. Helens Petroleum Co., which proved the existence of prolific production in the extreme western end

(Continued on Page 77)

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	August 19 Total this week	August 19 Daily average	August 12 Total last week	August 12 Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	158,996	22,714	69,837	9,977	633,300	60,035
Diesel and gas oil	.....	.....	.....	.....	.....	176,726
Gasoline	153,148	21,878	.....	.....	2,197,978	2,711,389
Kerosene	57,552	8,222	.....	.....	257,005	328,907
Foreign exports—						
Crude oil	641,837	91,691	210,437	30,062	15,468,444	9,218,063
Fuel oil	218,160	31,166	256,992	36,713	5,784,646	9,042,223
Diesel and gas oil	250,094	35,728	116,249	16,607	4,031,015	4,897,615
Gasoline	249,711	35,673	.....	.....	4,881,600	5,329,291
Kerosene	7,495	1,071	.....	.....	667,101	1,576,910
Lubricants	54,757	7,822	.....	.....	103,127	.....
Other unfinished oil	.....	.....	.....	.....	.....	849,163
Coastwise-domestic—						
Crude oil	441,291	63,042	219,994	31,428	7,859,853	2,871,082
Fuel oil	186,327	26,618	218,377	31,197	6,791,271	9,648,465
Diesel and gas oil	37,548	5,364	.....	.....	1,029,687	1,370,809
Gasoline	287,859	41,123	383,129	54,733	9,992,909	9,930,176
Kerosene	5,774	825	.....	.....	155,086	287,940

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	178,662	152,932
Gasoline	.....	.....	.....	.....	9,499	25,778
Asphalt	.....	.....	.....	.....	418,700	278,026
Lubricants	.....	.....	.....	.....	16,905	22,472
Foreign exports—						
Crude oil	217,255	31,036	.....	.....	3,680,900	1,957,468
Fuel oil	88,149	12,593	42,292	6,042	1,470,402	1,433,486
Diesel and gas oil	182,451	26,064	49,075	7,011	1,929,936	2,044,381
Gasoline	106,816	15,259	102,006	14,572	3,832,021	3,413,303
Kerosene	.....	.....	6,717	960	478,292	683,076
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	10,174	1,453	3,752	536	344,412	425,740
Coastwise-domestic—						
Fuel oil	101,214	14,459	126,814	18,116	3,917,942	4,063,017
Diesel and gas oil	48,197	6,900	28,605	4,086	939,628	695,356
Gasoline	102,988	14,713	211,540	30,220	4,804,225	3,022,050
Kerosene	.....	.....	8,990	1,284	320,083	188,822

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Crude oil	158,996	22,714	69,837	9,977	633,300	60,035
Diesel and gas oil	.....	.....	.....	.....	178,662	329,658
Gasoline	153,148	21,878	.....	.....	2,207,477	2,737,167
Kerosene	57,552	8,222	.....	.....	257,005	328,907
Asphalt	.....	.....	.....	.....	418,700	278,026
Lubricants	.....	.....	.....	.....	16,905	22,472
Foreign exports—						
Crude oil	859,092	122,727	210,437	30,062	19,149,344	11,175,531
Fuel oil	306,309	43,758	299,284	42,755	7,255,048	10,475,709
Diesel and gas oil	432,545	61,792	165,324	23,618	5,960,951	6,941,996
Gasoline	356,527	50,932	102,006	14,572	8,713,621	8,742,594
Kerosene	7,495	1,071	6,717	960	1,145,393	2,259,986
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	64,931	9,276	3,752	536	447,539	425,740
Other unfinished oil	.....	.....	.....	.....	.....	849,163
Coastwise-domestic—						
Crude oil	441,291	63,041	219,994	31,428	7,859,853	2,871,082
Fuel oil	287,541	41,077	345,191	49,313	10,709,213	13,711,482
Diesel and gas oil	85,745	12,249	28,605	4,086	1,969,315	2,066,165
Gasoline	390,847	55,835	594,669	84,953	14,797,134	12,952,226
Kerosene	5,774	825	8,990	1,284	475,169	456,762

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Monebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	...	...	...	$.80	$.76	$.76	$.77	$.78	...	...	$.70	$.70	$.70	...	...	$.70	...
15-15.9	.80	.79	.74	.78	.79	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.70	...
16-16.9	.80	.79	.74	.78	.79	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.76	.70	...	...	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	...	...	...	.82	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	...	...	...	.85	.76	.78	.77	.78	...	$.70	.74	.74	.71	$.70	...	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	...	...	...	.88	.78	.82	.77	.80	...	.70	.78	.78	.72	.70	...	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	...	...	...	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	...	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	...	...	...	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	...	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	...	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	...	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	...	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	...	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	...	1.02	.95	...	.89	.99	.86	.88	1.01	.98	.90	.83	...	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	...	1.05	.98	...	.92	1.03	.90	.91	1.06	1.02	...	...	...	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	...	1.10	1.03	.88	...	...	1.02	...	.96	1.06	.95	.95	1.10	1.06	...	...	...	.95	...
28-28.9	1.14	1.10	.90	1.14	1.15	...	1.14	1.07	.90	...	...	1.06	...	.99	1.10	.99	.99	1.15	1.10	...	...	...	.97	...
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	...	...	1.09	...	1.03	1.14	1.03	1.02	1.20	1.14	...	...	...	.99	...
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	...	...	...	1.07	1.17	1.08	1.06	1.25	1.18	...	...	...	1.01	...
31-31.9	...	...	...	...	1.24	Pipe	1.24	1.22	.97	Ship	...	...	...	1.11	1.21	1.12	1.09	1.29	...	...	...	...	...	...
32-32.9	...	...	...	...	1.27	Line	1.27	1.27	1.00	...	...	...	...	1.14	1.25	1.16	1.13	1.34	...	...	...	...	...	...
33-33.9	...	...	...	...	...	...	...	1.32	...	$1.28	...	...	...	1.18	1.28	1.20	1.17	1.38	...	...	...	$1.19	...	...
34-34.9	...	...	...	...	...	...	...	1.37	...	1.32	...	...	...	1.22	1.32	1.25	1.20	...	...	...	...	1.23	...	...
35-35.9	...	...	...	...	...	...	...	1.42	...	1.35	...	...	...	1.25	...	1.29	...	...	...	...	...	1.27	...	...
36-36.9	...	...	...	...	...	...	...	1.46	...	1.39	...	...	...	1.29	...	1.33	...	...	...	...	...	1.31	...	...
37-37.9	...	...	...	...	...	...	...	1.51	...	1.43	...	...	...	1.32	...	1.37	...	...	...	...	...	1.35	...	...
38-38.9	...	...	...	...	...	...	...	1.56	...	...	...	...	...	1.36	...	1.42	...	...	...	...	...	1.39	...	...
39-39.9	...	...	...	...	...	...	...	1.61	...	...	...	...	...	1.40	...	...	...	...	...	...	...	1.43	...	...
40-40.9	...	...	...	...	...	...	...	1.66	...	...	...	...	...	1.43	...	...	...	...	...	...	...	...	...	...

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over. By Standard Oil Co., effective October 15: El Segundo, 14 to 18.9 degrees, 80 cents; 19-19.9, 82 cents cents; 20-20.9, 85 cents; 21-21.9, 88 cents; 22-22.9, 92 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.03; 26-26.9, $1.06; 27-27.9, $1.10; 28-28.9, $1.14; 29-29.9, $1.17; 30-30.9, $1.21. Wilmington, 14 to 16.9, 75 cents; 17-17.9, 77 cents; 18-18.9, 79 cents; from 19 degrees upward, prices same as Signal Hill.

Texas and Louisiana Gulf

By
NEIL WILLIAMS

Jackson County's New Pool; Fairbanks Outpost Is Testing

HOUSTON, Tex., Aug. 29.—The opening of a new pool in Jackson County and the testing of an outpost, 4,000 feet east of production in the Fairbanks field, Harris Count, were the highlights of a comparatively dull week of developments along the Gulf Coast district.

Magnolia Petroleum Co. No. 3-A West Ranch, on a block of several thousand acres centering in the R. Musquiz Survey, Jackson County, was flowing into pits at the close of the week, making an estimated 2 bbls. of fluid per hour of which 80 per cent was wash water and the balance pipe line oil. There was no showing of salt water. The flow was through a quarter-inch choke, tubing pressure 100 pounds and casing pressure 600 pounds. The Frio sand, showing oil, was topped at 5,080 feet, and cored to a total depth of 5,086 feet. Seven-inch casing was cemented on top of the sand. This is the third well on the structure. It is 4,100 feet northwest of No. 2-A West, a recent dry hole.

In the newly opened Cordele field, Jackson County, H. J. Porter No. 3 Pressley, flowed 126 bbls. per day through a three-sixteenths inch choke from Miocene sand at 2,681-2,702 feet.

Operators in the Fairbanks field, Harris County, were watching the results of a scheduled production test of Stanolind Oil & Gas Co. No. 1 Fritz Look, 4,000 feet east of production. The well is bottomed at 7,495 feet, and 7-inch casing was cemented at 6,989 feet for a test of the regular 6,800-foot sand. As only a slight showing was reported to have been cored in the section, little hope is given the well of making an oil producer. Southwest of the field, and about midway between the Fairbanks and Satsuma fields, Housh & Thompson No. 1 Fisher Estate was coring below 6,600 feet and should reach the 6,800-foot sand early this week. On the Heterostegina marker, the well is checking flat with the nearest production. On the north end of the field and offsetting their No. 1 Kramer, which extended the field a short distance to the northeast, Williams & Thompson are starting No. 2 Kramer in the G. Reid Survey.

Eureka's Deep Prospect

Prospect of a deeper sand being opened in the Eureka field, Harris County, was encouraging when a drill stem test of Jack Frazier No. 1 Laura Lackner showed 475 pounds of pressure and 120 feet of 50-gravity distillate on an 11-minute drill stem test at 8,089-92 feet. Soft to medium hard sand was cored at 8,074-92 feet. The well is on the extreme west side of the field and is a projected 9,500-foot, or Wilcox, test. Oil production on the structure has been confined to the southeast flank at 7,700 feet. In the field proper, Mean & McGhee No. 1-C Lackner is bottomed in oil sand at 7,735 feet, with 5½-inch casing cemented at 7,735 feet. Tide Water Associated Oil Co. No. 1-B Laura Lackner is being completed through perforated casing at 7,688-98 feet.

South of the Cheek field (Lovell's Lake), Jefferson County, George Echols and others have derrick up for No. 1 American National Bank of Beaumont. The well is about 2 miles south of production in the J. J. French Survey. It is being drilled on a farmout lease from the General Crude Oil Co. and is scheduled to go to 8,500 feet. In the field proper and offsetting the discovery well, Shell Petroleum Corp. has killed No. 1 Pleasant and is pulling screen to rework. The well was completed last week through perforated casing at 7,717-20 feet and flowed 36 bbls. of distillate per day through a three-sixteenths inch choke.

Location for an important semi-wildcat to be drilled 6,000 feet south of the Turtle Bay field was made by Stanolind Oil & Gas Co. The well is on State tract No. 38 in Turtle Bay. In the Cedar Point field, Galveston Bay, Standard Oil Co. of Texas and Salt Dome Oil Corp. are starting No. 2-118 State.

In the Katy gas field, Waller County, location for three important tests were made by Stanolind Oil & Gas Co. No. 1 J. J. Sweeney Estate is located in the T. S. Reese Survey No. 110, approximately 2,640 feet east of No. 1 Freeman, a recent completion, No. 1 A. W. Robertson is in Section 23 of the H.&T.C. Survey, while No. 1 Edward P. Seymour is in the T.C. Survey No. 80. The Katy field is one of the largest gas reserves on the Gulf Coast. It is scheduled to receive its first pipe line outlet within 90 days, with the completion of United Gas Pipe Line Co.'s system, which will extend to Houston.

W. L. Grant No. 1 Sherman, Moss Bluff area, Chambers County, topped broken shale with thin streaks of sand, having a gas odor, at 1,450 feet. Failing to make a successful drill stem test, the operator attempted to run liner and it became stuck at 1,495 feet. This is the first development in this area and the progress of this test is being watched with interest.

In the Pearland area, Brazoria County, Glenn H. McCarthy No. 1 Street, D. H. M. Hunter Survey, is shutdown at 5,800 feet awaiting orders after encountering salt water at 5,500 feet.

In Grimes County, Southwestern Petroleum Co. No. 1 W. W. and J. C. Greer, Patrick O'Connor Survey, an old hole abandoned several months ago at 5,011 feet, was taken over by Hubert Holt and the hole plugged back and sidetracked at 800 feet. Sand with a gas showing was cored at 2,757-60 feet, and sand with an oil showing at 2,760-61 feet. Casing may be run for a production test.

Define Miocene in Clinton

Miocene production in the Clinton field, Harris County, was defined in two directions. S. G. Harrison No. 1 Lafferty, 1½ miles southwest of production in the J. Brown Survey was abandoned at 4,515 feet, while Sun Oil Co. No. 1 Oates, 2,000 feet west of the field, Reels and Trobough Survey, was quit in salt water sand at 4,614 feet.

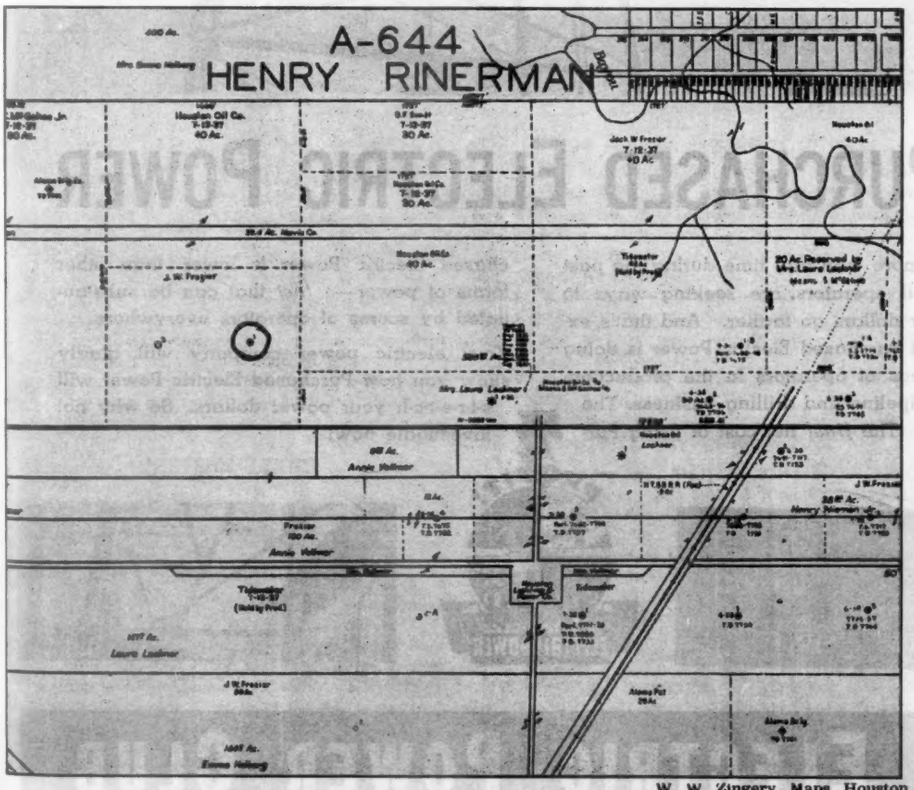
N. W. Hunter No. 1 Hughes located on the southwest side of the Hitchcock field, cored salt water in the Miocene sand at 5,147-57 feet, and was abandoned below 6,000 feet. This well was drilled on a farmout lease from the Sun Oil Co. and definitely defines the field in this direction.

In the Old Ocean field, Brazoria County, Sun Oil Co. made location for No. 1 William Campbell, approximately 2,000 feet northeast of production in the Charles Breen Survey. This is the first test by any company other than Harrison & Abercrombie who control the majority of the acreage.

South Louisiana

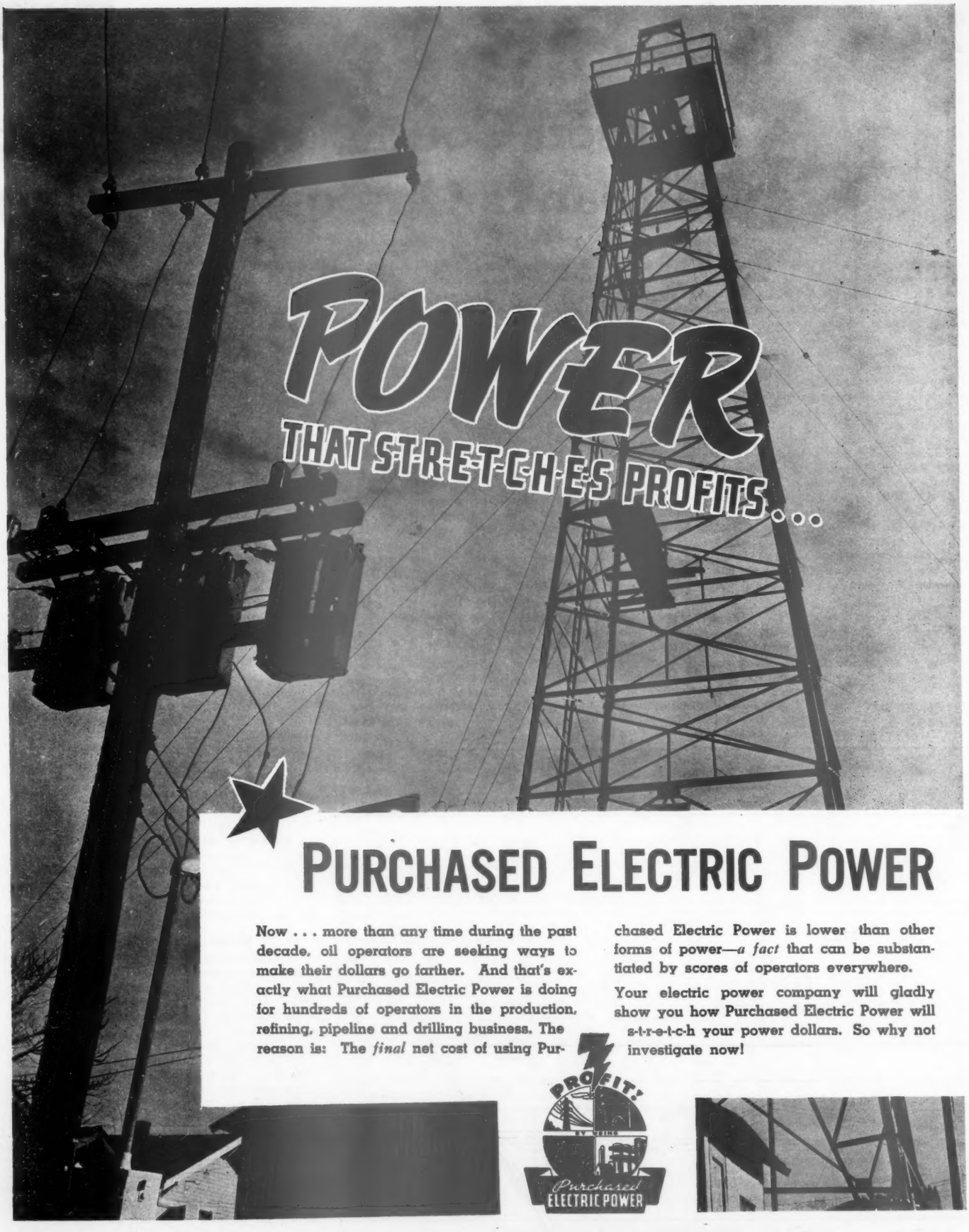
In the old Jennings field, Acadia Parish, Coastal Louisiana, additional acreage was thrown open for development as Frank Bennett was running casing in No. 1 Freeman about a half mile west of the nearest producer. Oil sand was indicated on an electrical survey at

(Continued on Page 96)



W. W. Zingery, Maps, Houston

Eureka field, Harris County, showing west outpost well of Jack Frazier No. 1 Laura Lackner (indicated by circle) which has shown evidence of commercial production in a deeper sand



PURCHASED ELECTRIC POWER

Now . . . more than any time during the past decade, oil operators are seeking ways to make their dollars go farther. And that's exactly what Purchased Electric Power is doing for hundreds of operators in the production, refining, pipeline and drilling business. The reason is: The *final* net cost of using Purchased Electric Power is lower than other forms of power—*a fact* that can be substantiated by scores of operators everywhere.

Your electric power company will gladly show you how Purchased Electric Power will s-t-r-e-t-c-h your power dollars. So why not investigate now!

PROFIT BY USING Purchased ELECTRIC POWER

PETROLEUM ELECTRIC POWER CLUB

North and East Texas

By
D. H. STORMONT

K. M. A. Is Cut Off on West; Wichita County Deeper Pay

WICHITA FALLS, Tex., Aug. 29.—North Texas activity was featured over the past week by wildcat and extension developments around the K.M.A. field in Wichita County, the recently discovered Canyon sand pool also in Wichita County, and the Hull-Silk pool in Archer County.

Hopes for extending K.M.A. area westward into Wilbarger County were discounted when Target Drilling Co. abandoned No. 1 W. T. Waggoner, Section 26-6, H.&T.C. Survey. The wildcat was drilled to 4,417 feet but found no commercial production.

Three miles south of Wichita Falls, Continental Oil Co. and Petroleum Producers No. 1 State Asylum lands, which was drilled deeper after failing to make a commercial producer from Strawn sand, is bottomed at 5,414 feet in a zone of contact between the Strawn and the Ellenburger formations. Saturation was found from 5,344 feet to 5,385 feet and operators are preparing to shoot the section. This is the deepest pay found in the county.

The new Canyon sand pool in the southern part of Wichita County was in line for its third producer. King Oil Corp. No. 1 Rathke-Jackson, on the north edge of the area, is bottomed at 2,639 feet with oil sand from 2,629 feet to total depth. Casing was cemented at 2,633 feet, and plug will be drilled next week. King Oil Corp. has contract to drill four additional wells on the Rathke tract.

Archer County

The Hull-Silk pool of northern Archer County received a new location and the possibility of a third producer from the 4,300-foot level. Sinclair Prairie Oil Co. staked No. 1 Hood-Jones & Collum, in the northeast corner of Lot 3, Block 18, A.T.N.C.L. Survey, and about three-quarters of a mile east of a 4,500-foot failure. Third producer for the 4,300-foot level of the pool was seen in Blackwell Oil & Gas Co. and Helmerich & Payne No. 3 Wilson, northwest offset to the Ligon & Burns No. 1 A. P. Nichols. The test cored from 4,350 feet to 4,367 feet, topping sand at 4,362 feet. Operators were running casing to 4,263 feet.

Clay County

One of the deepest tests drilled in North Texas, Walter Gant No. 1 Bryant Edwards, in the S. C. Belden Survey, Clay County, was plugged back from a total depth of 6,354 feet, after failing to find commercial production. Operators are preparing to shoot a horizon which showed saturation from 5,999 feet to 6,016 feet. Casing is set at 5,997 feet and oil showings from 5,791-5,810 feet will be tested if the lower sections again fail.

EASTERN TEXAS

DALLAS, Tex., Aug. 29.—The Flag Lake sector of northwestern Henderson County received an increase in activity over the past week when a new gas well was indicated for the pool and several wildcat outposts were staked around the field. The Texas Co. No. 1 R. L. Tarkington, half-mile southwest extension, is indicating a gas well at 3,018-38 feet. The test is in the south extension area and is in line with the Richards & Holloway and Chalk & Slaughter No. 1 J. P. Tarkington, a high-ratio oil producer. A new wildcat will be drilled by the High Point Oil Co. as its No. 1 White, in the Thomas Mitchell Survey, 1½ miles southeast of Tool. Another test for the general area, but across the line in Kaufman County, which has received much play in the last three weeks, is Howell Drilling Co. No. 1 Martin, in the Butler Survey, a mile and a half northeast of Kemp.

Leon County

Three new wildcat tests were staked in Leon County over the past week. Lone Star Gasoline Co. located No. 1 Steve Pate in the D. J. Haskins Survey about 8 miles southeast of the Buffalo gas area in the central part of the county. T. J. Tucker located his No. 1 Same Vane in the James Webb Survey about 4½ miles southeast of Keechi. The test has surface casing set and is shut down at 100 feet. Wynne Drilling Co. is building derrick for No. 1 H. L. Brown in the Joseph Brown Survey, three-quarters of a mile northwest of Keechi, on a farmout tract from the Sinclair Prairie Oil Co.

EAST CENTRAL TEXAS COMPLETIONS
(24-hour tests)

Anderson County

In the Cayuga field: Phil Top Oil Co. No. 1 G. W. Ware, 4,026-71 feet, 100 bbls. Tide Water-Seaboard No. 7 W. H. C. Goode, 3,984-4,002 feet, 82 bbls.

Franklin County

In the Talco field: Byrd-Frost No. 3 R. Evans, 4,135-4,288 feet, 320 bbls.

Nacogdoches County

Voyles No. 1 M. E. Rider, dry and abandoned at 4,285 feet.

Navarro County

Howze Oil Co. No. 1 J. A. Jackson, dry and abandoned at 3,215 feet.

Titus County

In the Talco field: Humble Oil & Refining Co. No. 9 Myre Galt, 4,220-67 feet, 342 bbls.

EAST TEXAS FIELD COMPLETIONS
(One-hour gauges)

Gregg County—Longview Area

Arkansas Fuel Oil No. 5 L. Walker, 3,627-52 feet, 68 bbls. Cities Service No. 20 J. W. Akin, 3,559-3,643 feet, 64 bbls.; No. 20 J. Bander, 3,564-3,639 feet, 68 bbls. Joe Long Drilling Co. No. 20-A W. W. Owens, 3,589-95 feet, 42 bbls.; No. 9-C W. W. Owens, 3,621-34 feet, 42 bbls. Royal Petroleum Co. No. 3 B. A. Skipper, 3,551-81 feet, 30 bbls. Shell Petroleum Co. No. 22 G. H. Slaton, 3,538-3,655 feet, 50 bbls.; No. 23 G. H. Slaton, 3,541-90 feet, 50 bbls. Stanolind Oil & Gas Co. No. 18 M. Jones, 3,512-89 feet, 50 bbls.; No. 3 H. Snoddy, 3,517-66 feet, 54 bbls. Tide Water No. 32 J. J. Castleberry, 3,556-73 feet, 10 bbls.

Gregg County—Kilgore Area

Gulf Oil Corp. No. 35 H. C. Alexander, 3,548-62 feet, 55 bbls. Jimmie Kemp No. 5 King, 3,521-39 feet, 24 bbls. Magnolia Petroleum Co. No. 44 John Radford, 3,675-77 feet, 65 bbls. Nioco Oil Co. No. 10 J. A. Knowles, 3,544-99 feet, 30 bbls. Tom Potter No. 3 J. E. Mitchell, 3,585-3,621 feet, 90 bbls. Shell Petroleum Corp. No. 83 J. B. Watson, 3,576-3,695 feet, 59 bbls.; No. 85 J. B. Watson, 3,560-80 feet, 64 bbls.

Rusk County—Joiner Area

Blackwell Oil & Gas Co. No. 11 Moore, 3,634-45 feet, 60 bbls. Gulf Oil Corp. No. 19 E. E. Thrash, 3,758-66 feet, 45 bbls. H. L. Hunt No. 18-B Bradford, 3,613-70 feet, 10 bbls.; No. 19-D Bradford, 3,556-3,605 feet, 7 bbls. Magnolia Petroleum Co. No. 21 T. D. Mason, 3,629-45 feet, 20 bbls. A. Nathan No. 3 Deason, 3,641-56 feet, 20 bbls. Frank Benzone No. 1 Ashby, 3,648-69 feet, 35 bbls. Ohio Oil Co. No. 92 M. M. Cross, 3,610-33 feet, 48 bbls.; No. 20 H. L. Griffin, 3,620-3,700 feet, 20 bbls.

Rusk County—Kilgore Area

M. T. Flanagan No. 6 M. Kennedy, 3,657-90 feet, 5 bbls. Humble Oil & Refining Co. No. 39-B H. Sexton, 3,647-3,700 feet, 68 bbls.

Smith County

Sinclair Prairie No. 32 D. Wright, 3,692-3,755 feet, 40 bbls. Stewart Oil Co. No. 5 S. S. Cook, 3,721-26 feet, 80 bbls.

Upshur County

Humble Oil & Refining Co. No. 16-B J. T. Miller, 3,667-3,714 feet, 43 bbls. L. & G. Oil Co. No. 1 fee, 3,655-57 feet, 80 bbls.

NORTH TEXAS COMPLETIONS
(24-hour gauges)

Archer County

L. T. Burns No. 1 Joseph Zotz, 250 feet, temporarily abandoned. Thomas A. Jirik No. 2 D. L. Wolf, 1,297 feet, dry.

Clay County

M. Hudson No. 1 Big Wichita River, 1,074-1,106 feet, 230 bbls. Sussex Oil Corp. No. 15 C. J. Shumake, abandoned location.

Jack County

Cochburn Oil Co. No. 5 Mrs. S. A. Enloe, 3,216-67 feet, 190 bbls. Hamilton Petroleum Co. No. 2 J. S. Rhodes B, 2,351-72 feet, 35 bbls. Sullivan Oil Co. No. 1 Yates, 355-71 feet, 5 bbls.; No. 2 Yates, 300-08 feet, 3 bbls.

Wichita County

Bell Oil & Gas Co. No. 36 Mrs. M. J. Powell, 1,231-64 feet, 10 bbls. R. B. Bryant No. 4 G. L. Nance, 3,870-3,911 feet, 159 bbls. Burk Royalty Co. No. 5 Sue Mitchell, 3,835-65 feet, 1,120 bbls.; No. 2 Sue Mitchell B, 3,813-73 feet, 712 bbls. Consolidated Oil Co. No. 10 W. P. Ferguson, 3,708-3,811 feet, 2,000 bbls. Deep Oil Development Co. No. 2 J. A. Kemp, temporarily abandoned location; Hammon-Hanlon-Buchanan, Inc., No. 9 Fassett & Tuttle, 3,895-3,955 feet, 1,032 bbls. J. C. Hawkins and others No. 4 Sue Mitchell, 3,840-82 feet, 1,104 bbls.

King Oil Co. No. 3 Big Wichita River, 3,744-3,900 feet, 1,080 bbls. Lincoln & Moore No. 2 Munger A, 3,640-3,865 feet, 528 bbls. Mogren & Anderson No. 7 C. A. Mertens, 922-43 feet, 75 bbls. Panhandle Refining Co. No. 15 R. J. Coleman, 815-1,035 feet, 5 bbls.; No. 21 R. J. Coleman, 584-608 feet, 10 bbls. H. L. Roach No. 2 Love, 200 feet, dry. Schwegler & Persky No. 8 E. E. Goetze, 856-69 feet, 5 bbls. Sunray Oil Co. No. 6 Mrs. Anna Mangold, 3,703-3,831 feet, 640 bbls.

Sunray Oil Co. No. 8 Mrs. Anna Mangold, 3,792-3,821 feet, 2,304 bbls. C. H. Tedford and others No. 1 Bentley, 510 feet, dry. Sam K. Viersen No. 2 R. L. Kempner B, 3,849-3,855 feet, 3,600 bbls. Mrs. Hulda B. Wallace No. 1-D W. J. Logan, 3,730-80 feet, 920 bbls. Joe A. Worsham No. 2 J. L. and T. J. Waggoner, 3,748-3,855 feet, 1,080 bbls. Worth Oil Co. No. 1 W. J. Logan B, 3,715-86 feet, 730 bbls.; No. 3 W. J. Logan B, 3,730-51 feet, 1,050 bbls.

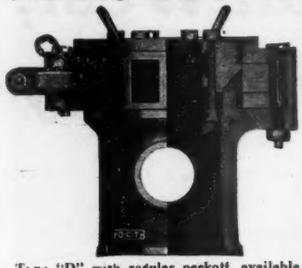
Wilbarger County

King Oil Co. No. 3 R. L. Castleberry, 2,206 feet, dry. Phillips Petroleum Co. No. 206 W. T. Waggoner, 3,047-72 feet, 1,188 bbls. Summit Oil Co. No. 4 W. T.

(Continued on Page 77)

PREVENT STUCK PIPE
While Preventing Blowouts!

Include an O-C-T Preventer in your drilling control hook-up as a safeguard against stuck pipe. With the packoff latched around the pipe, you can rotate for days and move pipe up and down to prevent sticking while killing the well.



Type "D" with regular packoff, available flanged or screwed, with or without outlets.

Type "D" with stripper rubber.

OIL CENTER TOOL CO.
O-C-T
HOUSTON, TEXAS, U.S.A.
CABLE ADDRESS "OCEATOL"
Sold Through Supply Stores

MILL STOCKS
AT
BEAVER FALLS, PENNA.
MEMPHIS, TENN.

THE BABCOCK & WILCOX TUBE COMPANY
BEAVER FALLS • PENNSYLVANIA

Among the Drilling

GEORGE ECHOLS is moving one of his rigs from the Heyser field in Victoria County, Texas, to the Lovell's Lake area, Jefferson County, where an 8,500-foot test, 2½ miles south of production, will be drilled for himself. The well is on the American National Bank of Beaumont lease in the J. J. French Survey.

SMITH & McDANNALD have apparently found a new sand on the southwest flank of the old Jennings field in Evangeline Parish, Louisiana, as Shell Petroleum Corp. No. 4 Community showed several hundred feet of pipe line oil on a drill stem test. Other active operations of Smith & McDannald are at the Dickinson field with two rigs running for Pure Oil Co., one at the Hastings field for Stanolind Oil & Gas Co., two at Eureka for Tide Water Associated Oil Co., one at Long Lake for the same company, one at Withers and in Jim Wells County for themselves, one at Charenton and at Port Barre for the Pan American Production Co. and at Raceland field for Tide Water Associated Oil Co.

CRON & GRACEY are attempting to open a deep sand in the Gibson field, Terrebonne Parish, Louisiana, for Shell Petroleum Corp. The well is on the Kuntz lease, about a half mile south of production and the test is being made in sand bottomed at 10,557 feet. In the Clam Lake field for the same company. No. 2 McFaddin has shown indications of producing from a new sand in the Miocene horizon. One rig has been moved to the Fairbanks field, Harris County, for Moore & O'Hern No. 1 Whitehead and Rash, an outpost test. Other active operations are reported at the Lockport field for Louisiana Crusader Oil Co., at the Welsh field for Stanolind Oil & Gas Co., at the Dickinson field for themselves and at the Lake Long field, where a protection string of 9⅝-inch casing is being cemented at 8,770 feet, in a projected 10,000-foot hole.

ALLEN & MORRIS, of San Antonio, assured the newly opened La-Rosa field in Refugio County, Texas, of a 6,000-foot south extension as I. J. Allen No. 1 Rooke showed several hundred pounds of pressure and gas cut drilling mud on two drill stem tests in the 5,300-foot discovery horizon. The hole has been cored ahead and another test was being made at 5,562-77 feet. Contract was received from the W. R. R. Oil Co. for another test in the Refugio field. Two rotaries are operating in the Clara Driscoll field, Nueces County, for Pan American Production Co. and the Texas Co., while in the same county and located in the Luby field, one operation is reported for the Seaboard Oil Co. On a wildcat prospect in Jim Hogg County, a drill stem test is being made on Humble Oil & Refining Co. No. 2 Kelsey-Bass at 4,708-26 feet, while San Patricio County, drilling was started on Frank Grote No. 1 Tedford.

JACK FRAZIER, who gave the Eureka field in Harris County, Texas, its first oil production, has discovered a deeper sand in his No. 1 Laura Lackner, one-half mile west of the field. Soft medium hard sand was cored at 8,074-92 feet and on a 11-minute drill stem test at 8,069-92 feet the well tested 475 pounds of pressure and recovered 120 feet of 50-gravity distillate. It is drilling ahead to a contract depth of 9,000 feet, at which time a production test of the new sand will be made.

HOLCOMB & THOMASON, Shreveport, La., last week completed the Arkansas-Louisiana Gas Co. No. 1 Johnson, a southwest outpost to the Jefferson extension of Rodessa in Marion County, Texas, for a large gasser. The test, one of the most important to be drilled in the section, tested oil, gas and salt water in several horizons productive in Rodessa, but attempted completion of an oiler was unsuccessful. The well gauged 28,000,000 feet of gas per day in the Henderson sand.

F. W. MARTIN DRILLING CO., of Shreveport, La., is beginning an important wildcat in the southeastern section of the city of Shreveport. The test is 7 miles southeast of the recently completed R. E. Allison No. 1 Ellerbee, which discovered oil just north of the city limits. Associated with Martin in the new test is the Superior Oil Corp. of Tulsa.

W. G. RAY, drilling contractor of Shreveport, La., is drilling the North American Oil Consolidated Co. No. 1 Burrow, a northwest edge well in the Cotton Valley field of Webster Parish, North Louisiana. The test promises to bring a very important development to the field. The Bodcaw sand, cored at 8,662-8,700 feet, shows oil saturation. If completed for an oil well, as present indications strongly support, the well will contribute considerably to the belief that the large Cotton Valley gas and distillate field in the lower Marine is surrounded by a ring of oil production. The North American well is the second to find

H. C. SMITH ROCK BITS
INSURE INCREASED SPEED AND ECONOMY

H. C. SMITH ROCK BIT
available in sizes 5⅝" up to and including 13"

•

Send for Folder or see Composite Catalog

H C Smith Oil Tool Co.
GENERAL OFFICES AND PLANT
P. O. Box 431, Compton, Calif.
CLINT WALKER, Division Manager
714 Hamilton Bldg., Wichita Falls, Texas
Illinois Service: Brown-Walters Co., Centralia, Illinois

"There is no better rope"

Standco
NO-SMOKE
STANDCO BRAKE LINING
Nothing novel—no bunk—but it gets the job done without scoring brake rims. See page 1940, Composite Catalog.
STANDARD BRAKE LINING CO.

Contractors

oil in the Bodcaw, the first being the Stanolind Oil & Gas Co. No. 1 Pardee, southeast of the field, which was completed several weeks ago.

LIVERMORE DRILLING CO., of Odessa, contractor for Broderick & Calvert, one of the largest independent operators in the Permian basin of West Texas, has completed another well for them and is drilling several more in Ector County. In the Foster pool, No. 2 Witcher was completed for 1,113 bbls. of oil in 24 hours from a total depth of 4,300 feet. The well is flowing through 2½-inch tubing landed at 4,280 feet. Gas-oil ratio is 525 to 1. Also in the Foster pool, No. 3 Witcher is drilling below 3,912 feet; No. 4 Witcher is waiting on rotary at 165 feet; No. 9 Foster is drilling in lime below 4,230 feet; No. 10 Foster is drilling in anhydrite and red rock below 3,120 feet; No. 11 Foster is waiting on cement to set around surface casing at 159 feet, and in the Harper pool, No. 3 E. F. Cowden is preparing to drilling plug from casing cemented at 3,900 feet.

GULF OIL CORP. is drilling its Nos. 116, 118, 119 and 120 Goldsmith in the Goldsmith field of Ector County, West Texas. The largest single operator in the pool, Gulf has completed approximately 120 producing wells on the Goldsmith lands which include almost all of southern half of the pool. With the present indications as to the trend of the field, the southernmost dry hole for the field being about 5 miles to the southwest, there is possible space for the drilling of 926 additional wells by Gulf on its Goldsmith lease, making a total of over 1,000 wells for the Gulf corporation in the Goldsmith field alone.

T. K. O'NEAL has received contract for the drilling of an important wildcat test in central Erath County, West Central Texas. It will be C. B. Collard No. 1 W. L. Payton and is contracted to 5,500 feet to the Ellenburger of lower Ordovician. It is about 2½ miles west of Stephenville and in the northeast corner of the Henry Pierson Survey. The test is on a block of approximately 8,000 acres. Contractor is expected to commence operations in the next few days.

COSDEN PETROLEUM CORP. is rigging up materials for its second test in its new producing area opened several weeks ago in the southeastern part of Young County, North Texas. The new test is about 900 feet northwest of the discovery well and is in the Sewell lease "A" in the Reynolds Survey. Meanwhile the discovery well is making its 100-bbl. allowable in about three or four hours from a total depth of 3,954 feet.

CAREY & CAREY DRILLING CO. has spudded an outpost to the K.M. A. field of Wichita County. It is No. 1 J. A. Kemp, Block 59, W.V.F.L. Survey, about 2 miles southeast of the main part of the field. The test will seek to expand the limits of K.M.A. to the southeast, where thus far in the field's development smaller wells have been completed than on the west side due to a thinning of the producing sand section.

Drilling crew of Housh & Thompson, operating in the north end of the Fairbanks field, Harris County, Texas, for Windsor Oil Co.: W. G. Devore (driller), J. H. King, Burt Ruffins, B. Galloway and A. H. Chandler

RED BALL CUTTING SERVICE

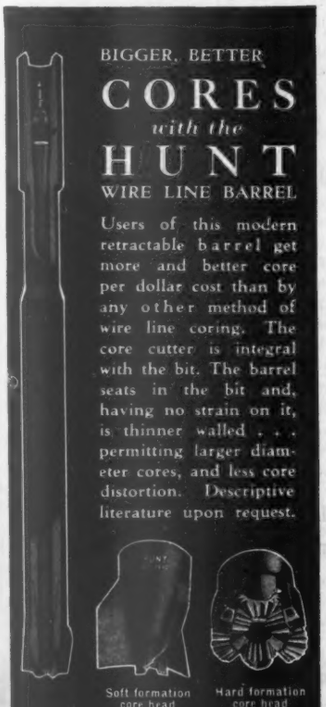
FEWER ROUND TRIPS
at your expense

When one of our operators cuts out your stuck drill pipe, there are fewer round trips to make at your expense. Cuts of 600 feet at a time are not infrequent. Net result: Lower cutting cost to you. Call for Red Ball Service first!

J. S. Abercrombie Co.
21st FLOOR GULF BLDG.
HOUSTON – TEXAS

BIGGER, BETTER
CORES
with the
HUNT
WIRE LINE BARREL

Users of this modern retractable barrel get more and better core per dollar cost than by any other method of wire line coring. The core cutter is integral with the bit. The barrel seats in the bit and, having no strain on it, is thinner walled . . . permitting larger diameter cores, and less core distortion. Descriptive literature upon request.



Soft formation core head

Hard formation core head

HUNT TOOL COMPANY
HOUSTON, TEXAS
Patented, Authorized and Applied for Bit Sizes
HUNT WIRE LINE CORING BARRELS

BIT SERVICE SHOPS:
Houston, Joinerville, Talco, Corpus Christi, Bay City, Alvin, Texas . . . . . Rodessa, Jennings, Houma, Louisiana

REED'S
'B-R'
DRILLING BIT WITH
WIRE LINE RETRACTABLE
CORE BARREL

ANY NUMBER OF CORES CAN BE TAKEN REGARDLESS OF DEPTH WITHOUT REMOVING THE DRILL PIPE

REED 'B-R' Drill Collar and 3-Blade Drilling Bit with Core Barrel in position

HARD FORMATION HEAD
(INTERCHANGEABLE WITH SOFT FORMATION HEAD)

REED
ROLLER BIT CO.

New Test
for
REGAN
HOOKS

Every Regan Hook is factory tested to 1½ times its rated safe load capacity and is finally inspected by the Magnaflux method, the most advanced system of ascertaining the presence of hidden cracks. 300-ton hooks tested to 500 tons.

PRE-TESTED
to
50% OVER
RATED SAFE
LOAD

Magnaflux system scientifically magnetizes the metal which reveals any flaws. Magnafluxed before and after heat treatment. Guesswork is eliminated. Regan Hooks after service in field can also be Magnafluxed and renormalized. Ask for details.

SEE COMPOSITE CATALOG

Regan
Forge & Engineering Co.
San Pedro California

Mid-Continent Office—1302 Maury St., Houston.
Okla. Rep.—Bovaird Supply Co., Tulsa.
Kansas Rep.—Bovaird Supply Co., Wichita.
N.Y.C. Office—17 Battery, G. R. Woods, Rep.

Michigan Field Report

By
O. C. PRESSPRICH

Equal Number of Oil Wells and Dry Holes in Busy Week

SAGINAW, Mich., Aug. 29.—The spotlight of Michigan oil interest remains focused brightly on the southwestern corner of the state, scene of recent impressive oil strikes in Overisel Township, Allegan County, and Bloomingdale Township, Van Buren County. There has been an occasional swing, however, to Freeman Township, Clare County, scene of another recent prolific strike, where attempts at confirmation have encountered—and drilled past—heavy flows of gas, sufficient, in fact, to indicate potentialities of an important gas field if the Freeman area fails as oil territory.

The week's greatest activity was in the Allegan territory, where the new Overisel field topped all others in the state for new production, but with the Salem and Monterey fields, in Allegan, also showing good results.

Summary of the week shows an exactly even balance between producers and dry holes—10 of each. The Allegan County fields accounted for eight of the producers, four of the dry holes. Overisel matched its four producers with one dry hole; the Salem field had two producers, the Monterey field two producers and one dry hole, while the Dorr field, also in Allegan County, scored a blank with no new production, but two dry holes. Buckeye Township of Gladwin County supplied one of the other producers and West Branch Township of Ogemaw County the last one in the production list. One dry hole was reported by each Moffatt Township of Arenac County, Fremont Township of Isabella County, Pine Township of Montcalm County, Saginaw Township of Saginaw County, Vassar Township of Tuscola County, Pine Grove Township of Van Buren County.

Van Buren Discovery Increases

Meantime the Bloomingdale Township (Van Buren County) discovery well, Fisher-McCall Trust No. 1 M. Wiggins Estate, continued to edge its production figures upward, with indications of becoming one of the southwest Michigan area's best producers. The Fisher-McCall-Wiggins is in the SE SW SE Section 9-1s-14w. The Fisher-McCall Trust is preparing to drill a second well on the Wiggins lease, with Gordon Oil Co. and J. W. McIntosh also hurrying preparations for offsets.

The Clare County gas strike, perhaps 20 miles distant from other gas production, has been smothered by McClanahan Oil Co. in its No. 1 Perkins, NE NE NE Section 15-18n-6w, and the hole will be deepened to the Dundee in the expectation of finding oil in commercial quantity. The gas flow was gauged at 16,000,000 feet. McClanahan testing for oil on the heels of the recent Higelmire-Van Horn strike 1¾ miles northwest, was uninterested in a gas strike so far from other production, but, if the oil test results prove indifferent, remains in position to plug back to the gas level. The gas was found in the Michigan "stray" sand at between 1,460 and 1,485 feet.

The dry holes in Vassar Township of Tuscola County and Saginaw Township of Saginaw County were rather significant. The former was only a short distance from the Veitengruber test, in which a minor showing of oil was found several months ago in the Dundee. Logs of the two holes show the structure appreciably higher in the test just completed, Meredith & Rau No. 1 Foundry Sand Supply Co., C NE NW Section 32-11n-8e, but the drill penetrated 120 feet into the Dundee structure without trace of oil, then encountered water.

The Saginaw dry hole, at Carr & Jaenicke Trust No. 1 Moses Laundra, SE NW SW Section 10-12n-4e, Saginaw Township, was an effort to rejuvenate the old Saginaw field, which in 1925 first put Michigan on the petroleum map. The test was drilled in the midst of a cluster of one-time producers from the Berea sand. It was designed to explore the Dundee stratum, probably the Monroe, perhaps even the Sylvania. But when the drill encountered water fairly well down in the Dundee, the test was plugged and abandoned. Water was tapped at 3,140 feet, filling the hole.

Allegan County

The past week's four successful completions in the Overisel Township (4n-14w) field, all in Section 36, added approximately 2,150 bbls. to the new field's potential, already in the neighborhood of 1,500 bbls. through increasing flow of discovery well, Fisher-McCall's Wiggins. Top rank among the new producers of the week in Overisel was shared by Muskegon Development Co. No. 1 H. Berens, SE NW SE Section 36, and Sprenger Brothers & Smith No. 4 P. J. Huizen, SE SE SE Section 36, which gauged approximately 600 bbls. daily. Next ranked the Sprenger-Smith No. 2 P. J. Huizen with 500 bbls. daily, and William J. Cline No. 3 M. Aldrich, SW SW SE Section 36, brought up the rear with 450 bbls. daily.

Overisel's one dry hole of the week was Trexler & Williams No. 1 Yonkers, SE SW SE Section 25, which flooded with water at approximately 1,570 feet. All the Overisel area's five producers are bottomed at about 1,460 feet in the Traverse sand.

The two new producers in Salem Township (4n-13w) are smaller than those in the Overisel territory. Dawn Development Co. No. 2 Grace E. Hardy, C N SE NW Section 21, stepped up to about 400 bbls. daily after acid treatment, and A. S. Cochran No. 2 William Neinker, SE SW NW Section 21, completed with 1,000 feet of oil in the hole, moved up to 100 bbls. daily under acid.

Monterey Township (3n-13w) overbalanced its one dry hole with two substantial producers. Cooper & Shakespeare No. 1 John DeYoung, NW NW NW Section 6, was one of the best in the field, rating an estimated 670 bbls. daily after acid. Acid treatment increased Lentz & Miller No. 1 Henry M. Boerman, NW SW NW Section 6, to an approximate 330 bbls. daily. The dry hole was Reed Oil Co. No. 1 A. Hartman, NE SE NE Section 17, which filled with water at 1,750 feet.

The two dry holes in Dorr Township (4n-12w) were Columbia Oil & Gas Co. No. 3 A. Siewald, SE NE SW Section 29, and Michigan United Oil Co. No. 2 Kubiac, NE NE NW Section 31. Both found the Traverse stratum dry and encountered water at approximately 1,600 feet.

Arenac County

Moffatt Township (20n-3e) reported failure of a wildcat test at R. B. Tamblyn and Sterling Drilling Co. No. 1 Robert B. McFarlan, SW SW NW Section 34, dry in both Traverse and Dundee and encountering water at about 2,500 feet.

Gladwin County

Buckeye Township (18n-1w): Acid treatment of a promising show gave Bell & Marks a production gauge of 250 bbls. daily at their No. 4 Frank and Mabel Schember, SE NW NW Section 26.

Isabella County

Fremont Township ((13-5w): Although a good show of gas was reported at 3,570 feet, Rowmor Corp. No. 1 Weidman, C N NW SW Section 26, was forced to abandonment when the hole filled with water.

Montcalm County

Pine Township (11n-8w): Rex Oil & Gas Co.'s venture at No. 1 Nels Hansen, SE SE NW Section 19, encountered Dundee water at 3,350 feet and was abandoned.

Ogemaw County

West Branch Township (22n-2e): Weber Oil Co. reports a small producer at its No. 2 Robert Zahm, SW NW NW Section 34. On completion the well swabbed 8 bbls., but after acid treatment appeared good for about 25 bbls. daily.

Saginaw County

Saginaw Township (12n-4e): Carr & Jaenicke Trust No. 1 Moses Laundra, SE NW SW Section 10, was abandoned after filling with Dundee water at a depth of 3,140 feet. This test was intended to probe the possibilities of lower strata in the old Berea field which 13 years ago made Saginaw the center of Michigan's new oil development.

Tuscola County

Vassar Township (11n-8e): Meredith & Rau No. 1 Foundry Sand Supply Co., C NW NW Section 32, was abandoned after failure to record any trace of oil at a depth of 2,720 feet, 122 feet into the Dundee.

Van Buren County

Pine Grove Township (1s-13w): In contrast with the good results obtained in the wildcat test in Bloomingdale Township, Louis Rose No. 1 Andrew Peters, SE NW SE Section 11, was abandoned after the hole filled with water, the drill having failed to obtain a show of oil on the way down to a depth of approximately 2,080 feet.

Allegan Drilling Active

Indicative of the importance the oil fraternity credits to the oil strikes in Overisel Township, Allegan County, is the almost complete monopoly by Allegan fields of the weekly drilling permit list of the state conservation department. On the 33 permits issued, 23 went to Allegan County locations, three to Van Buren County, Allegan's next door neighbor.

Ten of the 23 Allegan County permits were for tests in Overisel Township, eight for Heath Township, two for Monterey Township, and one each for wildcat tests in Otsego, Salem and Twonbridge townships. Two of the Van Bureu County permits went to Bloomingdale Township, one to Hamilton Township.

Mattoon Will Again Entertain Oil Men at a "Round Up"

MATTOON, Ill., Aug. 29.—Leaders of the oil development in the Illinois oil basin have been invited by the Association of Commerce to attend the second annual "round up" Saturday, September 10, at the Mattoon Country Club. Approximately 500 oil officials and their families are expected to attend.

Given "in honor of the various oil companies and their representatives who have selected Mattoon as their headquarters," the affair will include both luncheon and an evening dinner, with a dance following. Golf, bridge, and automobile trips about town will occupy the afternoon.

Twelve major oil companies have their central west offices in Mattoon, and several others have landmen here. Offices here are Texas, Gulf, Phillips, Magnolia, Carter, Tide Water, Barnsdall, Skelly, Cities Service, Transwestern, Superior, and Indian Territory Illuminating Oil.

Kansas Developments

By
DAL DALRYMPLE

East Sittner Pool Discovery Rated at 1,340 Barrels Daily

The East Sittner pool, newest producing sector in Stafford County, Kansas, was opened the past week by H. L. Rowley at No. 1 Sittner, SE SE NE Section 35-21-12w. The discovery well found Arbuckle lime at 3,565 feet, was bottomed at 3,575 feet and made potential of 1,340 bbls. of oil. The new area is one and one-half miles northeast of the South Sittner pool, two miles east of the Sittner pool and about 7 miles northeast of the town of Hudson. Location is on a farmout from Indian Territory Illuminating Oil Co.

Barton County's newest discovery, the C. E. Ash, James Hershey and Crown Petroleum Co. No. 1 Wolf, SE SW SE Section 36-19-12w, was rated potentially at 501 bbls. of oil, producing from the Arbuckle formation at 3,346-73 feet, total depth. The new area, named the Wolf pool, is one and three-fourths miles northwest of the West Ellinwood pool, another producing sector recently opened by Ash and Hershey.

Mid-Continent Petroleum Corp. No. 1 Rogg, NW NW NE Section 32-14-13w, outpost between the Hall and Letsch pools in Russell County, made potential of 1,784 bbls. of oil last week-end. It was tested after three treatments with a total of 12,000 gallons of acid. Production was from Kansas City lime topped at 2,867 feet, with pay at 2,896 feet, total depth 2,911 feet. It is the largest producer in that sector of Russell County.

Bartlesville sand production was found in a new area in Montgomery County at Wilbur Neely and Neely-Dobbin Co. No. 1 Starkey, NE NW NW Section 22-31-16, five miles northwest of Cherryvale. High-gravity oil rose within 200 feet of the top after a shot and the crew was unable to lower the oil by bailing. Top of Bartlesville sand was 862 feet, total depth 872 feet. Location is three miles from the nearest production.

Total potential of the 18,590 producing wells in Kansas was placed at 3,603,253 bbls. of oil daily in the latest Corporation Commission report as of August 20. This is a new peak for the state and an increase from the total potential of 3,485,189 bbls. from 18,523 wells a month ago.

Ellis County

Largest of five producers completed in Ellis County the past week was Shell Petroleum Corp. No. 7 Rumsey, NE SW NW Section 23-11-17w, Bemis field. It had Arbuckle lime at 3,352 feet, total depth 3,358 feet, pumped 530 bbls. of oil in five hours and made potential of 2,549 bbls. of 35-gravity oil.

Magnolia Petroleum Co. No. 16 Johansen, SE SW NE Section 22-11-17w, found Arbuckle lime at 3,393 feet, was bottomed at 3,399 feet, pumped 384 bbls. of oil the first four hours, 396 bbls. the next four hours and was rated potentially at 2,306 bbls. daily.

Cities Service Oil Co. No. 2 Rumsey, NE NW SW section 23-11-17w, pumped 355 bbls. of oil the first four hours, 388 bbls. the next four hours and made potential of 2,131 bbls. Production was from Arbuckle lime topped at 3,364 feet, total depth 3,373 feet.

Twin Drilling Co. No. 3 Goetz, NE NW SE Section 3-14-17w, Faubion pool, had Arbuckle lime at 3,504 feet, total depth 3,531 feet, was acidized with 2,000 and 4,000 gallons, pumped 262 bbls. and 320 bbls. of oil in successive four-hour tests and made potential of 1,573 bbls. of 33-gravity oil.

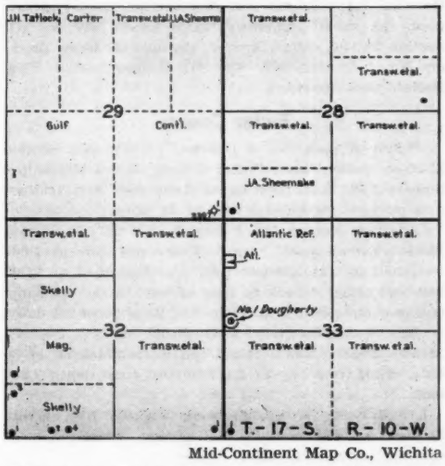
Republic Natural Gas Co. No. 1 Joy B, NE cor. Section 14-12-18w, topped Arbuckle lime at 3,630 feet, total depth 3,640 feet, was treated with acid, pumped 186 bbls. of oil the first four hours, 155 bb's the next four hours and made potential of 929 bbls. of 30-gravity oil.

Three new tests in Ellis County were reported. Shell Petroleum Corp. No. 10 Rumsey, SW NE NW Section 23-11-17w, Bemis field, was a rotary rig. Same company's No. 11 Rumsey, NW SE NW Section 23-11-17w, was a location. C. B. Davis No. 1 Oswald, NW NE SE Section 11-12-16w, Blue Hill area, was a location.

Barton County

Phillips Petroleum Co. No. 4 McClanahan, CW half W half SE Section 7-16-13w, South Trapp area, Barton County, was completed for potential of 3,004 bbls. of oil after acid treatment . Arbuckle lime was topped at 3,341½ feet, total depth 3,346 feet, and it pumped 327 bbls. of oil naturally in five hours. It was acidized, pumped 510 bbls. of oil the first four hours and 501 bbls. the next four hours. Gravity of the oil was 39 degrees.

Shell Petroleum Corp. No. 5 Hoffman A, NW NW SW Section 7-16-13w, found Arbuckle lime at 3,338 feet, was bottomed at 3,362 feet and swabbed 145 bbls. of oil in six hours. It was acidized with 2,000



Mid-Continent Map Co., Wichita

Extension of the Stumps pool one-half mile northward in Ellsworth County was indicated at Atlantic Refining Co. No. 1 well in Section 33-17-10w

and 3,000 gallons, pumped 462 bbls. of oil the first four hours, 453 bbls. the next four hours and made potential of 2,719 bbls. of 39-gravity oil.

Martin & Hearing No. 1 Kultgen B, NE NE SE Section 17-16-12w, had Gorham sand at 3,342-49 feet, total depth, pumped 119 bbls. of oil the first four hours, 109 bbls. the next four hours and made potential of 655 bbls.

Duwe & Farris and Atlantic Refining Co. No. 1 Sporn, SW SW SE Section 26-20-11w, South Silica field, topped Arbuckle lime at 3,352 feet, sulfur water intruded at 3,374-83 feet, total depth, and it was abandoned.

New work in Barton County: Shell Petroleum Corp. No. 3 Stettinger, SW SW SE Section 1-16-14w, rotary rig; same company's No. 3 Schneider A, NE NE SE Section 12-16-14w, moving in material; same company's No. 4 Hoffman C, CW half E half Section 1-16-14w, Trapp district, building rotary rig; Western Kansas Oil & Refining Co. and others No. 1 Reif, SW SW SE Section 35-16-13w, rigging up rotary; Stanolind Oil & Gas Co. No. 2 Deal, C N half N half NE Section 35-16-13w, Ainsworth area, rigging up rotary; same company's No. 5 Stuekemann, NE SE SE Section 11-20-11w, Silica field, rotary rig; Lario Oil & Gas Co. and Atlantic Refining Co. No. 3 Bryant, SW SW SE Section 23-20-11w, rigging up rotary; Gulf Oil Corp. No. 4 Sessler, C N half N half SW Section 24-20-11w, South Silica field, an old well, rigging up to deepen.

Rice County

Another large producer was completed in the Geneseo pool, Rice County, at Shell Petroleum Corp. No. 5 Zajic, NW SW NE Section 13-18-8w. It topped Arbuckle lime at 3,189 feet, total depth 3,215 feet, was acidized, pumped 258 bbls. of oil in three hours and on potential test pumped 420 bbls. the first four hours, 431 bbls. the next four hours and made potential of 2,520 bbls. of 40-gravity oil.

Atlantic Refining Co. No. 1 Habiger, NE cor. Section 8-18-10w, Habiger-Stumps area, had Arbuckle lime at 3,240 feet, found pay at 3,257 feet and was bottomed at 3,271 feet. It pumped 95 bbls. of oil the first four hours, 101 bbls. the next four hours and was rated potentially at 570 bbls. of oil, with 5 per cent water. Gravity of the oil was 42 degrees.

B. F. Stapleton and others No. 3 Grove, SW SE NW Section 29-19-9w, Chase area, topped Arbuckle lime at 3,210 feet, had pay at 3,212 feet, total depth 3,223 feet, was treated with acid, pumped 298 bbls. and 284 bbls. in four-hour tests, and made potential of 1,705 bbls. of oil. Gravity of the oil was 46 degrees.

Continental Oil Co. No. 5 Wood, SE SW SE Section 12-18-8w, Geneseo field, was a rotary rig; Shell Petroleum Corp. No. 7 Zajic, NE SW NE Section 13-18-8w, was a location; Continental Oil Co. No. 6 Groth, NW NE SW Section 32-20-7w, Wherry pool, was a rotary rig.

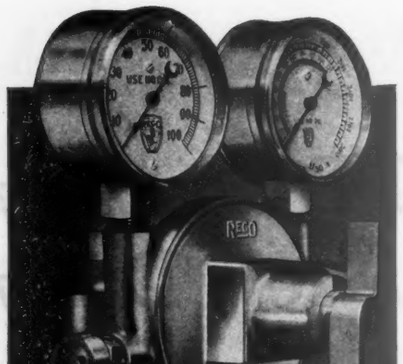
Estimated Daily Production

Estimated daily production for Kansas for the week ending August 27, and for the preceding week, was as follows:

	Barrels	
	Aug. 27	Aug. 20
Oxford City	1,975	1,500
Burrton	9,350	9,375
Ritz-Canton	6,025	6,050
Graber	3,025	3,425
Hollow-Nikkel	2,950	2,975
Lerado	1,075	1,050
Voshell	2,575	2,600
Wellington	3,550	3,300
Ellsworth County:		
Lorraine	2,450	2,080
Other pools	1,900	1,575
Rice-Barton counties:		
Bloomer	2,250	2,635
Chase	4,725	4,200
Geneseo	3,375	3,575
Raymond	1,025	925
Silica	10,900	12,350
South Silica	2,225	1,875
Keesling	800	925
Wherry	2,950	3,325
Miscellaneous Barton	5,345	7,237
Miscellaneous Rice	4,110	3,570
Russell County:		
Fairport	1,850	1,885
Gorham	1,395	1,795
Russell	1,320	1,230
Sullivan	5,555	5,850
Trapp	8,935	8,125
Miscellaneous Russell	7,240	7,145
Sedgwick County:		
Valley Center	1,040	1,030
Miscellaneous	1,790	2,910
Ellis County:		
Bemis	4,750	5,625
Miscellaneous	2,790	3,020
Kingman County	545	595
Stafford County	4,490	4,315
Greenwood County	9,475	9,375
Butler County	18,650	19,640
Other fields	22,970	20,988
Total Kansas	165,375	168,075

Russell County

The only completion of the week in Russell County was J. J. Hall No. 32 Miller, NE NE SE Section 30-14-13w, Hall pool. Lansing lime was topped at 2,872 feet, it had pay at 2,902 feet, total depth 2,965 feet, water intruded and it was plugged back to 2,924 feet. After acidizing, it pumped 196 bbls. of oil the first



TWO-STAGE REGOLATOR

This two-stage RegOlator, of advanced design, incorporates patented features which place it in top position among welding experts. Its application covers gas welding, cutting, brazing, metal spraying and many other processes requiring the accurate control of high pressure gases.

Be sure . . . specify RegOlator for unfailing accuracy, constant performance and unvarying pressure-volume control! Production performance is assured and operator time saved as the RegOlator eliminates frequent pressure-volume adjustments.

Construction is rugged and compact . . . forged brass body and bonnet. Operation is safe . . . no seat ignition . . . automatic relief valve at first stage outlet.

The first stage nozzle type and the second stage stem type regulators are perfectly balanced to give a constant volume and pressure flow of gas regardless of drop in tank pressure from full to empty. Double springs and the unusually large 3⅛" diameter second stage diaphragm assure the ultimate in sensitive, accurate control.

RUST . . . DUST . . . and DIRT
CANNOT ENTER THE REGOLATOR

A patented removable triple filter cartridge having a filtering area 17 times greater than ordinary regulators removes all foreign matter from the incoming gas . . . thus preventing the chief source of regulator repairs.

SEND FOR LEAFLET R-130—
IT HAS COMPLETE DETAILS

The BASTIAN-BLESSING Company
288 E. Ontario St.
Chicago, Ill.

four hours, 167 bbls. the next four hours and made potential of 1,013 bbls. of 38-gravity oil.

New operations in Russell County: Lauck & Moncrief No. 1 Miller B, NW NE SW Section 29-13-14w, Atherton pool, set surface casing; R. H. Shields No. 6 Letsch, NW NW SE Section 27-14-13w, Letsch pool, rigging up; Polcyn Brothers No. 3 Polcyn, NW SW SE Section 10-14-15w, Gorham area, rig; W. I. Southern, Inc., No. 1 Weimeister, NE NE NW Section 3-15-13w, South Letsch pool, set 10-inch casing at 260 feet; R. H. Shields No. 2 Rogg, C W half E half NW Section 9-15-13w, Coralena pool, location.

Cowley County

Earl Wakefield No. 4 Wilson, NW NE NW Section 4-32-3e, Weathered pool, Cowley County, was completed for potential of 2,391 bbls. of oil after pumping 399 bbls. and 443 bbls. of oil in successive four-hour tests. It topped Arbuckle lime at 3,231 feet, was bottomed at 3,256 feet, water intruded and it was plugged back to 3,252 feet.

Trees Oil Co. No. 4 Lewis, NW NE NE Section 28-31-4, an old well in the Hittle pool, was deepened from 2,434 feet to Arbuckle lime at 3,337½ feet, total depth 3,342½ feet, and pumped 387 bbls. of oil the first four hours, 414 bbls. the next four hours and made potential of 2,322 bbls. It found Bartlesville sand at 2,978-3,000 feet and had Mississippi lime at 3,014-3,227 feet.

E. B. Shawver No. 7 Shawver, SE NW SE Section 3-30-4e, North Rock pool, found Arbuckle lime at 3,325 feet, had a hole full of water at 3,326-29 feet, total depth, and was abandoned.

First reports of new activity in Cowley County: Lloyd, Frost & Study No. 5 Wilson, SW SE SW Section 33-31-3e, Weathered pool, rigging up rotary; Trees Oil Co. No. 5 Lewis, SE NW NE Section 28-31-4, Hittle pool, rig; same company's No. 6 Lewis, SW NE NE Section 28-31-4, cellar; Archer, Murdock & Jones Brothers No. 1 Chance, NW SW NE Section 21-32-5, Frog Hollow pool, spudded.

Butler County

Ralph Wixson No. 5 Dohren, SE SW NE Section 11-25-3e, Potwin pool, Butler County, found Mississippi lime at 2,682 feet, total depth 2,698 feet, was acidized and pumped 90 bbls. of oil in 24 hours.

Adair & Morton No. 5 Brandt, NE SE SE Section 15-28-7, Brandt pool, topped Mississippi lime at 2,661 feet, had pay at 2,664-97 feet, was bottomed at 2,700 feet and plugged back to base of pay. After acidizing, it was completed for an estimated 25 bbls. of oil daily.

Rex & Morris No. 1-A Guenther A, NW NE NE Section 29-26-7, was acidized and made potential of 50 bbls. of oil from pay at 2,187-96 feet, total depth 2,201 feet.

I. S. Dustin No. 1-A Maxwell, NW SW SW Section 31-24-4, an old Potwin well being deepened, was drilling below 1,200 feet.

Woodson County

Seven completions were reported in Woodson County, the largest number for that county in several months. Sinclair Prairie Oil Co. No. 6 Headley C, SW NW SW Section 29-23-14, Winterscheid pool, topped Mississippi lime at 1,659 feet, had pay at 1,696-1,707 feet, total depth, was acidized and pumped 8 bbls. of oil in 24 hours.

Young & Sullivan No. 1 Eckhoff, C W half NE NW Section 35-23-14, Hoagland area, pumped 52 bbls. of oil in 27 hours after acidizing, and was completed, pumping 8 bbls. of oil and 5 bbls. of water in 24 hours. Top of Mississippi lime was 1,636 feet, total depth 1,655 feet.

C. L. Sheedy and others No. 9 Tipton, NE SW NW Section 28-25-14, Quincy area, had Bartlesville sand at 1,408-22 feet, total depth 1,428 feet, and pumped 15 bbls of oil daily.

Same operators' No. 10 Atkins, NE SE SE Section 19-25-14, pumped 20 bbls. of oil daily after a shot in Bartlesville sand at 1,408-48 feet, total depth 1,470 feet.

C. L. Sheedy and others No. 5 Enloe, C N half N half NW SE Section 28-25-14, found Bartlesville sand at 1,430-44½ feet, total depth 1,448 feet, was shot and pumped 30 bbls. of oil daily.

Same operators' No. 8 Lee, SW SW NE Section 28-25-14, flowed 35 bbls. of oil daily from Bartlesville sand at 1,396-1,452 feet, total depth 1,458 feet.

Diller Oil & Gas Co. No. 1 Steinforth, SW SW NE Section 13-26-14, had sand at 1,280-1,325 feet, water intruded and it was abandoned at 1,427 feet, total depth.

C. L. Sheedy and others No. 11 Akins, C W half SE SE section 19-25-14, Quincy area, was drilling below 900 feet. B. & B. Oil Co. No. 4 Corkery, NW cor. Section 29-25-14, was a machine.

Reno County

Colorado Syndicate and others No. 1 Sabin, C N half NE NW Section 13-23-4w, Burrton field, Reno County, had chat at 3,268-3,415 feet, total depth, was acidized and shot, flowed 43 bbls. of oil in 22 hours, and was completed for potential of 50 bbls. of 42-gravity oil.

Salt City Gas Co. No. 2 Bontrager, C SW NE Section 33-24-5w, Yoder area, was moving in rotary material.

Harvey County

Carl Hipple and E. J. Shaffer completed a sizeable producer in the Harvey County sector of the Burrton field at No. 1 Martindell, C S half N half SE Section 18-23-3w. It topped chat at 3,237 feet, had pays at 3,290-3,315 feet and 3,341-58 feet, and was bottomed at 3,368½ feet. It flowed 463 bbls. of oil naturally in 24 hours, with 1,670,000 feet of gas. It was acidized, flowed 251 bbls. in four hours and made potential of 1,514 bbls. of 42-gravity oil.

Ellsworth County

Cities Service Oil Co. and others No. 1-C Mollhagan, C W half SE Section 29-17-9w, extended the Schroeder pool in Ellsworth County one-half mile southeast, and is the sixth producer for the pool. It topped Arbuckle lime at 3,230 feet, had pay at 3,236-39 feet, total depth, pumped 239 bbls. of oil the first four hours, 241 bbls. the next four hours and made potential of 1,432 bbls. of oil, with 7½ bbls. of water. Gravity of the oil was 45 degrees.

Stafford County

Cities Service Oil Co. No. 2 Schilling, SW cor. Section 26-21-13w, Stafford County, had Arbuckle lime at 3,670 feet, total depth 3,733 feet, and was dry and abandoned.

J. E. Crosbie, Inc., No. 2 Johnson, NW NW SW Section 13-24-11w, Zenith pool, was building rotary rig.

Sumner County

Leo D. Wentworth and others No. 1-A Latta, NE SE NE Section 8-30-2w, Latta pool, Sumner County, topped Kansas City lime at 3,051 feet, total depth 3,089 feet, was acidized, and was completed for potential of 95 bbls. of oil.

Greenwood County

Basinger & Herrington No. 1 Carter, SW NW SW Section 32-25-11, Greenwood County, had a hole full of water at 2,105 feet, total depth, plugged back to 1,304 feet and pumped 6 bbls. of oil with 20 per cent water daily.

Arthur Lyke No. 4 Morris, SW NE SW Section 5-24-12, Hamilton area, was drilling below 500 feet. Aikman & Braden No. 1-A Taylor, NE NE NW Section 15-24-12, had spudded.

Wildcat Reports

Roy Ramsey No. 2 fee, NE NE SW Section 8-24-5e, wildcat in Butler County, topped chat at 2,490 feet, based Mississippi lime at 2,524 feet and was dry and abandoned at 2,531 feet, total depth.

C. D. Boone and others No. 1 Schilling, NW NW NE Section 20-21-12w, location for Stafford County wildcat, was abandoned.

Long & Johnson No. 1 Eveleigh, SW SW NE Section 3-18-14w, Barton County wildcat, was building rig.

Duwe & Farris and Atlantic Refining Co. No. 1 Parker, C SE SW Section 29-6s-23w, wildcat in Graham County, was a rotary rig.

I. S. Dustin and others No. 1 Warner, SE NW NE Section 17-27-5e, an old Butler County wildcat being deepened, was drilling below 2,070 feet.

First Reports

Ace Oil Co. No. 1 Kirkpatrick, SW SE NW Section 24-25-1e, Kuske area, Sedgwick County, was a rig.

Jones No. 1 Coleman, SE SW NW Section 28-17-4e, Lost Springs pool, Marion County, was a machine.

Max Reynolds No. 1 Suffield, SW NW SE Section 25-19-2w, Ritz-Canton area, McPherson County, an old well, was deepened from 2,947 feet to 2,965 feet and flowed 118 bbls. of oil and 8 per cent water in 24 hours.

California Fields

(Continued from Page 68)

of the Montebello field last year, completed No. 2 Eggleston flowing 2,010 bbls. of relatively clean 37.2-gravity oil and 1,750,000 feet of natural gas per day from the fifth zone, which is in lower Pliocene. No. 2 Eggleston was carried down to 5,710 feet but uncovered water and was plugged back to 5,650 feet and the hole finished with 316 feet of 5-inch liner including 293 feet of perforated. This well is the most northeasterly producer in the field at the present time. V-8 Oil Co. No. 1 M. B., reported completed last week, caught fire when gas accumulation flashed from the bricks of a nearby boiler, and burned for about two hours before being extinguished by the Montebello fire department assisted by nearby crews. Four men working on the derrick floor received severe burns from which one died. This is the first fire or blowout in the Montebello field since deep zone development got under way in the west end last year. The crew had cleaned out the hole and was preparing to go back in when the flash occurred. Drilling operations are increasing in this field and a further gain is anticipated especially if Standard Oil Co. succeeds in getting commercial production in No. 1 Kaufman fee in the west end of the area now undergoing development. No. 1 Kaufman is scheduled to be spudded in on September 7 and will prove interesting because it will extend the productive limits if completed and will lead to additional drilling farther out on the west end of the structure where practically all available acreage has been tied up for several months. Union Oil Co. is putting the finishing touches on No. 2 Wilcox, the most easterly drilling well in the field, and should be ready for a production test soon. A formation test made a few days ago resulted in a recovery of 4,900 feet of fluid including 2,700 feet of gas-cut mud, 1,300 feet of oil, 260 feet of gas-cut oily mud and 600 feet of fresh water. The well is bottomed in the sixth zone at 6,254 feet and the formation tester was set at 6,140 feet. If this well is successfully completed, Union Oil Co. will be obliged to move across the street and drill on the Calkins lease, St. Helens will find it necessary to drill an offset on the north and this will bring the Texas Co. into the picture. The West Montebello Oil Co. has picked up the pay in No. 2 Montebello at 6,202 feet in the sixth zone and plans are under way to make an early production test.

Rosecrans

Barnsdall Oil Co. has completed another good well in the Rosecrans field of Los Angeles Basin and preparations are under way to spud in two additional wells. Barnsdall No. 5 Trust was finished flowing 1,597 bbls. of clean 33.3-gravity oil per day through a 42/64-inch bean from the O'Dea zone at 7,802 feet. Barnsdall has completed rigs for No. 6 Trust and No. 10 Rosecrans, both of which will be carried down to the deep zone. Barnsdall, which is drilling Exeter Oil Co. No. 4 Higgins down into the lower zone on a prorata basis after the cost of development has been liquidated, is making excellent time, having drilled 5,380 feet in 11 days. In the Dominguez field, Union Oil Co. completed two wells. No. 58 Callender carried down to 7,549 feet but plugged back to 3,224 feet has been finished in the upper zone flowing 75 bbls. of 28.9-gravity oil per day and No. 46 Hellman bottomed at 5,290 feet but redrilled to 5,258 feet was finished pumping 310 bbls. of 32.5-gravity oil per day. In the Yorba Linda district, Richfield Consolidated Oil Co. has completed No. 2 Todd pumping 130 bbls. of 15.7-gravity oil cutting 5 per cent daily from 1,744 feet.

Coastal Area

In the Ventura Avenue field, Tide Water Associated Oil Co. completed No. 19 Ventura Land & Water Co. doing 140 bbls. of 28.9-gravity oil and 357,000 feet of net formation gas per day on a compressor. This new well was drilled to 7,020 feet and the hole finished with 367 feet of 5-inch liner including 313 feet of perforated. General Petroleum Corp. No. 18 Barnard, which held up work for several weeks until the company overcome water trouble, is going ahead in the pay at 8,110 feet and at present has over 360 feet of productive formation. In the Santa Maria Valley field, Hancock-Bush interests completed No. 3 California Lands in Section 30-10-33, flowing 640 bbls. of relatively clean 16.3-gravity oil daily from 4,435 feet. Standard Oil Co. No. 1 Los Flores, which discovered a new oil field in the Cat Canyon district of Santa Barbara County last week, continues to build up and is pumping 759 bbls. of clean 14.9-gravity oil daily from 6,440 feet. This well tends to indicate that Union Oil Co.'s productive properties in the same general area have a deeper productive zone below that now known to exist. Standard Oil Co. does not have any pipe line facilities in Santa Barbara County and it therefore remains to be seen what disposition is made of this new supply of heavy crude oil. It is quite possible the company may make some kind of a deal with the lessor whereby it will continue drilling operations but suspend production activities. The consistent increase that has taken place in fuel oil and heavy crude oil stocks during the past year indicates that none of the marketers desire to produce this quality of oil.

In the Capitan field of Santa Barbara County, Shell Oil Co. completed No. 1-27 Covarrubias, flowing 631 bbls. of very clean 21.3-gravity oil and 31,000 feet of natural gas per day from 1,320 feet. This new well, which was brought in flowing through a three-quarters inch bean and showed a tubing pressure of 50 pounds and a casing pressure of 410 pounds, is located in the southwestern end of the field. Top of the Vaqueros was logged at 1,276 feet and thus, with the water string landed at 1,264 feet, the well has 44 feet of oil sand open to production. Shell's drilling program included three wells for this field and since No. 1-28 has already got under way the company has another well to drill. General Petroleum Corp. after six attempts has finally secured an effective water shutoff in No. 18 Barnard in the Ventura Avenue field on a multiple stage job at 4,861 feet. On a formation test the well flowed at the rate of 1,440 bbls. of 28.6-gravity oil from 7,772 feet but the crew killed the flow in order to make some additional hole. No. 18 Barnard is in the northern end of the field and the company's success in overcoming water will probably result in offset drilling by Bolsa Chica Oil Co. Tide Water Associated Oil Co. No. 111 Lloyd bottomed at 9,802 feet came in flowing salt water on a recent test and will require further work.

San Joaquin Basin

In the Midway-Sunset field of Kern County Signal Oil & Gas Co. has completed No. 5 Kendon in Section 35-32-23, pumping 131 bbls. of 16.5-gravity oil cutting 5 per cent and Mary B. Cates has finished No. 8 Special in Section 2-11-24, pumping 10 bbls. of 13.4-gravity oil per day from 834 feet. No. 5 Kendon was redrilled and deepened from 1,701 feet to 2,180 feet and the hole finished with 687 feet of 6⅝-inch liner including 565 feet of perforated. In the Kern River field Barnhart & Morrow have completed No. 5 Kern County Land in Section 11-28-27, pumping 25 bbls. of 14.6-gravity oil cutting 16 per cent from 1,733 feet after finishing the hole with 48 feet of 6⅝-inch liner including 47 feet of perforated. Hast Oil Co. No. 4 Kern in Section 34-28-28, has been completed pumping 20 bbls. of 14.5-gravity oil per day from 335 feet after the hole had been carried down to 345 feet and then plugged back.

Gas Well

Ohio Oil Co. completed its first well in the Willows district of Glenn County but it will require another to determine the productive possibilities of the area. Ohio's new producer, No. 1-A Willard in Section 18-20-2, was finished flowing 5,000,000 feet of dry gas per day from 2,364 feet. It was drilled to 6,014 feet, but failing to find deeper production, was plugged back to 2,364 feet and the 8⅝-inch water string, cemented at 5,653 feet, was gun perforated with nine holes at 2,237-52 feet. From this depth the well came in wet and the company squeezed away 100 sacks of cement and continued work. The well is believed to have a potential production of about 20,000,000 feet of dry gas per day.

East Texas Fields

(Continued from Page 71)

Waggoner, 1,685-97 feet, 5 bbls. L. Webb, Trustee, No. 3 W. T. Waggoner D, 2,350-85 feet, 120 bbls.

Young County

Brazelton Brothers No. 1 H. C. McBrayer, 588-72 feet, 10 bbls. Bridwell Oil Co. No. 1 Allen Williams, 610-90 feet, 8 bbls.; No. 2 Allen Williams, 583-629 feet, 40 bbls. King Oil Co. No. 1 J. C. Bloodworth, 761 feet, dry. John Labusan No. 1 R. D. Webb, 679 feet, dry. Lake Oil Corp. No. 1 Mrs. D. F. Ford, 3,930-4,070 feet, 1,227 bbls. R. Olson No. 1 W. P. Stephens, 4,030-73 feet, 45 bbls. Pemeta Oil Co. No. 30 E. P. Tatum, 641-57 feet, 10 bbls. R. J. Watson No. 2 Mrs. Cordie Taack, 756 feet, dry. Chester Wynne No. 1 S. R. Jeffery, abandoned loca...

LOOK

TO PAGE FOR THIS SPECIALLY DESIGNED P-12 WING-CHANNEL POST

PAGE FENCE

PAGE *originated* woven wire fence in 1883. Consistent with a record for constant pioneering in fencing, PAGE now offers industry the only fence line post designed primarily for use with chain link metal fabric. Other metal posts are but adaptations of existing structural shapes.

The P-12 Wing-Channel Post design provides wider bearing surface for fabric—maximum strength—smart appearance. It exposes no injurious sharp corners. Wings and channel take rigid grip in concrete footing. PAGE P-12 Posts are high carbon steel, heavily galvanized to the high P-12 standard of rust resistance.

5 SUPERIOR FENCE METALS

PAGE FENCE is offered in 5 superior metals to meet all destructive atmospheric conditions. They include Page P-12 Copper-bearing Steel, Page-Armco Ingot Iron, Page-Alcoa Aluminum, Page-Allegheny Stainless Steel in woven wire, and Page genuine Wrought Iron picket fence. The metal best suited to your locality and purpose is impartially recommended by PAGE fence experts.

FENCE FACTS FREE

Mail the coupon. It will bring you illustrated booklet, "Fence Facts" and refer you to nearest of 92 completely responsible Page Fence Distributors located throughout the United States for free consultation, expert fencing service and erection by trained crews.

Page Fence is a product of the Page Steel & Wire Division of American Chain & Cable Company, Inc.

fence facts

PAGE FENCE ASSOCIATION

Dept. OG9, Bridgeport, Connecticut

Please mail me, without obligation, new Free Booklet, "Fence Facts," and name of nearest associated Page Fence Distributor.

Name.....

Address.....

City.....State.....

AMERICA'S FIRST WIRE FENCE • SINCE 1883

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Aug. 27.—Official figures show crude oil and naphtha production from all Alberta fields in June at 17,397 bbls. per day, compared with 17,636 bbls. per day in May. Turner Valley limestone production declined from 17,449 bbls. to 17,196 bbls., and Turner Valley shallow crude increased from 21 to 27 bbls. Moose Dome came into production with 37 bbls. per day in June.

Among Turner Valley producers, Royalite Oil Co., during June, yielded 57,846 bbls. of crude and 27,693 bbls. of naphtha. Brown Oil Corp., with three wells, yielded 41,455 bbls., and Model-Spooner-Reward group, with two wells, gave 40,063 bbls. Major producing units included National Petroleum Corp., two wells, 27,230 bbls.; Prairie Royalties No. 1, 26,929 bbls.; Davies Petroleums, two wells, 24,257 bbls.; West Turner Petroleums No. 1, 24,138 bbls.; Commoil, No. 1, 23,066 bbls.

Among the new producers, Vulcan-Brown Petroleums No. 1 yielded 16,437 bbls. during June; Frontier Royalties No. 1, 18,877 bbls.; and Sundance Royalties No. 1, 6,338 bbls. These figures represent production for only part of the month. Preliminary figures for July indicate that Frontier No. 1 delivered 48,495 bbls., establishing a new Canadian record for marketed production from an individual well; and Sundance No. 1 in July delivered 30,086 bbls.

June production was on a 37 per cent proration basis.

Pioneer Crude Producer

Recent tests under new regulations by the Gas and Oil Conservation Board with production taken through 2-inch orifice and tubing showed Turner Valley Royalties No. 1, LSD 13, Section 28-18-2w5, yielding at the rate of 760.8 bbls. a day. This well, brought in on June 15, 1936, as the first west flank crude producer in South Turner Valley, started with an initial production of 850 bbls. a day, and has been in practically continuous operation, yielding approximately $750,000. It was acidized last year, and recently a bridge was cleared. The slight decline in the production rate after two years is regarded as promising long life for west flank producers.

Turner Valley Completions

On the Turner Valley west flank, Mercury Royalties No. 1, LSD 8, Section 5-19-2w5, finished at 6,666 feet, is testing after a heavy acid treatment. Temporary potential before acidizing was 260 bbls.

In Section 29-18-2w5, Davies Petroleums No. 1, LSD 2, finished at 7,375 feet, has finished government test after acidization. Production is reported around 1,500 bbls. a day. Royalite Oil Co. No. 31, LSD 6, same section, finished at 8,064 feet, with natural production estimated around 350 bbls. a day, is testing after acidization. It looks like a fair producer.

In Section 17-18-2w5, Royalite No. 32, LSD 8, finished at 7,308 feet, has been acidized, and is finishing government test. Early reports indicate production rate will exceed 1,000 bbls. This is the first producer completed south of the Highwood River, and will not only extend the proven field to the south and west but will encourage drilling farther south, which was slowed down as a result of faulting encountered in National Petroleum Corp. No. 2.

Tests in the Lime

In West Central Turner Valley, Royalite Oil Co. No. 33, LSD 2, Section 5-19-2w5, entered the Madison limestone at 7,239 feet and cemented casing at 7,254 feet.

In Section 29-19-2w5, Commoil No. 2, LSD 10, is below 7,441 feet after getting the Madison limestone at 7,196 feet. It is expected to be the next completion.

In Section 20-18-2w5, York Oils No. 1, LSD 2, entered the Madison limestone at 6,990 feet and is preparing to resume after cementing 6-inch casing at 7,004 feet. This is the second well south of the Highwood River to get the Madison. The company holds 240 acres subleased from Okalta Oils, and is planning to start No. 2 immediately on completion of No. 1. Sunset Oils No. 2, LSD 7, same section, got the Madison limestone at 7,037 feet and cemented 6-inch casing at 7,046 feet.

Okalta Deep Test

West of the proven field, Okalta Oil Co. No. 6, LSD 3, Section 30-18-2w5, is standing cemented at 9,745 feet after getting the Madison limestone at 9,731 feet. Special stream-lined casing was run, the first use of this pipe in Alberta, the actual running taking only eight hours. Location is approximately 2 miles west of the original crude oil area and well down the flank, the lime being encountered approximately 2,000 feet deeper than in the deepest west flank producer. Fair oil shows were secured in the Home and Dalhousie sands overlying the lime. Drilling will resume as soon as arrangements are made for small diameter drill pipe and production equipment.

West Flank Drilling

In Section 5-19-2w5, Royalite Oil Co. No. 34, LSD 7, is below 2,969 feet after cementing casing. In Section 6-19-2w5, East Crest Oil Co. No. 4, LSD 8, is moving in rotary equipment, to resume from 2,340 feet where 10-inch casing was set. In Section 32-18-2w5, Davies Petroleums No. 4, LSD 10, is in the Blairmore formation below 5,355 feet after getting the grit beds marker at 5,260 feet. West Turner Petroleums No. 3, LSD 6, is below 5,028 feet. In Section 29-18-2w5, Command Oils, No. 1, LSD 14, is below 4,477 feet. In Section 20-18-2w5, Consolidated Royalties No. 1, LSD 14, is below 7,375 feet and getting close to the top of the limestone. It is expected to finish around 7,900 feet. Producers Crude Corp. No. 1, LSD 11, is below 4,620 feet. In Section 17-18-2w5, Anglo-Canadian Oil Co. No. 3, LSD 10, is below 2,902 feet. In Section 16-18-2w5, Brown Oil Corp. No. 5, LSD 12, is below 5,735 feet. Richwell Oil Co. No. 1, LSD 5, is below 5,062 feet. Royal Canadian Oil Co. No. 2, LSD 4, is in the Benton formation below 4,515 feet.

To Test South Extension

In Section 9-18-2w5, D. & D. Oils No. 1, LSD 12, has spudded, using rotary tools. Location is one-half mile southwest of National Petroleum Corp. No. 2, the nearest producer, which got a small crude production in the upper lime, but failed to get the main porous horizon owing to faulted conditions. D. & D. No. 1 is believed to lie west of the faulted area and in line with the southwest production. It was spotted last February for a test by Wylie-Plaxton group of Toronto, but will be completed as a joint test sponsored by Brown Oil Corp., Madison Oils, British American Oil Co., Calmont Oils, and Calgary and Toronto brokerage interests. Contract will be handled by Newell & Chandler.

After National Petroleum Corp. No. 2 encountered faulting, Marine Petroleums No. 1, immediately south in LSD 11, discontinued drilling at 1,330 feet. Rex Petroleums No. 1, LSD 9, has been standing at 75 feet, and Barolls No. 1, LSD 3, at 63 feet, while several other tests farther south have been standing idle. Completion of Royalite No. 32, a short distance north, as a large producer is likely to encourage new activity to the south and west, and west of National Petroleums No. 2.

In the far south, Anglo-Canadian Oil Co. No. 2, LSD 2, Section 33-16-2w5, is below 6,037 feet.

West of the proven field, Anglo-Canadian Oil Co. No. 2, LSD 16, Section 31-18-2w5, is below 5,340 feet.

North Turner Valley

In North Turner Valley, Home Oils No. 2 Millarville, LSD 6, Section 33-20-3w5, is in the Benton formation below 5,470 feet, and logging satisfactorily.

Royalite Oil Co. No. 35, LSD 7, Section 27-20-3w5, is below 868 feet. Location is a mile southwest of Home No. 2, and a little north of Royalite No. 29 producer in the same section. The Royalite company holds the entire Section 27-20-3w5 under lease from the Canadian Pacific Railway, subject to 10 per cent royalty.

In Section 16-20-3w5, Phillips Royalties No. 1, LSD 16, has been abandoned at 7,400 feet, owing chiefly to casing trouble at that depth. The test got oil shows in the McDougall-Segur sand around 6,953 feet but later drilled into a recurrence of the Benton formation. The company holds 400 acres in this area, and may later undertake a second test if Home No. 2 Millarville gets production.

Toronto Interests to Drill

Jack and Charles Perdue, of Toronto, have arranged to complete British Colonial Oils No. 1, LSD 5, Section 32-18-2w5, offsetting Royalite No. 30 producer to the southwest. Test will resume from 1,430 feet and be carried to the lime and placed on production; or in the alternative a new test drilled. Out of first production, less gross royalties and operating costs, the Perdue Syndicate will be repaid the full cost of drilling the well. Test has been standing for several months with tools lost in the hole. The Perdue Syndicate is also arranging to drill a test on acreage of the Kindersley Syndicate in LSD 12, Section 29-18-2w5.

Test Northwest Extension

A northwesterly extension of the West Central Turner Valley producing area will be tested by Sun Ray Development Co., represented by J. E. Billette, of Montreal, whose No. 1 has been spotted in LSD 8, Section 13-19-3w5. Foundations have been cemented and timbers and cable tool equipment are being hauled. The Sun Ray company, backed by French-Canadian interests, holds 160 acres in SE Section 13-19-3w5, subleased from Calgary & Edmonton Corp. Location is about 3 miles northwest of Vulcan-Brown Petroleums No. 1 producer in the west central area.

East Side Drilling

On the New Valley structure, northeast of Turner Valley, McLeod Oil Co. No. 1, LSD 4, Section 6-21-2w5, has casing lowered close to bottom at 8,430 feet. Test is in the lower Benton formation with a considerable seepage of high-gravity crude, partly from the cardium sandstone, and partly from the bottom of the hole.

On the Calling Valley structure, Sentinel Oil Co. No. 1, LSD 15, Section 8-20-2w5, is resuming from 6,800 feet.

Increase in Proration

In the Turner Valley field, the Alberta Conservation Board issued an order, effective August 20, temporarily increasing proration from 48 to 51 per cent, based on the old potential of around 55,000 bbls. a day. This increase followed closely on the emergency order of August 15 increasing the rate from 37 to 48 per cent to meet a sharply increased demand for Turner Valley crude.

A conservation board order already issued limits new drilling to one well on every 40-acre lease. Under special circumstances the board may authorize a second well on 40 acres; but will retain full control of production, and may curtail the yield to any extent deemed necessary. Wells must be located at least 660 feet from the boundary of the lease, 300 feet from any road allowance, right of way, dwelling house or church; and 1,350 feet from any gas or oil well, whether producing or drilling. Under special circumstances the board may, on application, modify these requirements. They are designed to protect the field against overcrowding, and against the wasteful drilling of offset wells.

The board has completed its test of 59 crude producers and has secured commitments from refiners as to the amount of oil they are prepared to handle. Quotas, set to balance this market demand, will be based on four factors: Potential, bottom-hole pressures, acreage surrounding the well, and gas-oil ratio.

The new conservation order when issued will provide for a uniform restricted flow on which allowables have been based. Each well will be assigned its quota of total oil marketed. Wells requiring more than 3,000 feet of gas to lift 1 bbl. of oil will be penalized proportionately. Tests indicate that some 18 crude wells produce 1 bbls. of oil on less than 2,000 feet of gas, and only a few require more than 3,000 feet.

The field's restricted flow will be about 6,000 bbls. less daily than on previous potentials, which were based on two-thirds of a 24-hour open flow. This method has been abandoned as faulty.

(Continued on Page 96)

Rocky Mountain Area

By
T. R. INGRAM

East Extension for Vacuum; Start Wildcat in South Lea

DENVER, Colo., Aug. 29.—The Plymouth Oil Co.'s deep test in the Denver basin, Elbert County, Colorado, began spudding August 24. There were no completions in Colorado.

Wyoming had no completions and one new operation. Extension of Indian leases in Maverick Springs, where 32 wells have been shut in for 20 years, is still under negotiation. Ohio Oil Co. and California Co. may test Ordovician in their No. 3-A Kyle at Big Medicine Bow.

The Santa Rita Oil & Gas Co. No. 1 State, Cut Bank field, Montana, offset to good producer, was dry and abandoned. Cut Bank had one new location. Kevin-Sunburst had one completion, a 160-bbl. well in Casper T. Olen No. 8 Engermoin, and one new operation. The Montana Gas Co. completed its No. 2 Clark on the Bow and Arrow structure as a gas well.

Claude Walker had a 5-bbl. well in McKinley County, and Continental Oil Co. a dry hole in San Juan County, northwest New Mexico.

NEW MEXICO

Extension of the Vacuum area of Lea County, southeastern New Mexico, was assured at Phillips Petroleum Co. No. 7 Santa Fe, C SE SW Section 27-17-35, 1 mile southeast of farthest east production in the field. It averaged 41 bbls. of oil an hour in a six-hour test, producing from pay between 4,360-4,610 feet, total depth.

Location was announced for a wildcat in southeastern Lea County, about one-fourth mile from the Winkler County, Texas, line. It is the Ohio Oil Co. No. 1 Wills, C NE NW Section 35-26-37, about 1½ miles southeast of the Rhodes gas area. Work had started at another new Lea wildcat at Emperor Oil Co. No. 1 Humble-State, C SE SW Section 36-20-35, about 7 miles east of the Lynch area.

Completions of the week in Lea County included three producers in the Vacuum field. Republic Production Co. No. 2 State, C SW SW Section 32-17-35, flowed 238 bbls. of oil in six hours through choke, accompanied by 3,000,000 feet of gas. Pay was topped at 4,357 feet, total depth 4,527 feet.

Texas Co. No. 1-R State, C NE NE Section 6-18-35, southeast end of the pool, found pay at 4,380 feet, was bottomed at 4,675 feet, and flowed 173 bbls. of oil naturally and through tubing in six hours.

Ohio Oil Co. No. 2 State-McCallister, C NE SW Section 25-17-34, flowed 90 bbls. of oil naturally in two hours through choke. It found pay at 4,630 feet, total depth 4,700 feet.

Continental Oil Co. and others No. 1-K-29 State, C SW SW Section 29-16-37, wildcat 5 miles southeast of Lovington, was plugged and abandoned at 5,302 feet, total depth in lime. No water was found and only slight showings of oil were logged.

Other Lea County completions of the week were as follows: Cities Service Oil Co. and Repollo Oil Co. No. 3 Brunson, C SW SE Section 4-22-37, Hardy area, topped pay at 3,670 feet, total depth 3,740 feet, was acidized and flowed 375 bbls. of oil in 18 hours.

Continental Oil Co. No. 6-B-23 Reed, NE SW SE Section 23-20-36, Monument field, flowed 108 bbls. of oil through choke in eight hours, with 627,000 feet of gas, from pay found at 3,810 feet, total depth 3,823 feet.

Great Western Production Co. No. 1-C State, C NE SW Section 7-19-37, north end of the Monument field, topped pay at 3,905 feet, total depth 4,081 feet, plugged back to 4,070 feet, and pumped 20 bbls. of oil daily.

Lem Peters No. 2 May, C W half SE SE Section 27-22-37, Penrose sector, flowed 20 bbls. of oil hourly through choke from pay found at 3,553 feet, total depth 3,651 feet.

Texas Co. No. 3-A Falby, C SE NW Section 8-22-37, was bottomed at 3,740 feet in lime and flowed 92 bbls. of oil in 22 hours through choke.

Two States Oil Co. No. 1-B Hill, C NE NW Section 5-21-37, topped pay at 3,674 feet, total depth 3,767 feet, was shot, and flowed 60 bbls. of oil through choke in 10 hours.

In Eddy County, V. P. Welch No. 1 Lewis, SE SW SE Section 5-16-28, found sulfur water at 3,138-39 feet, total depth in sand, and was dry and abandoned.

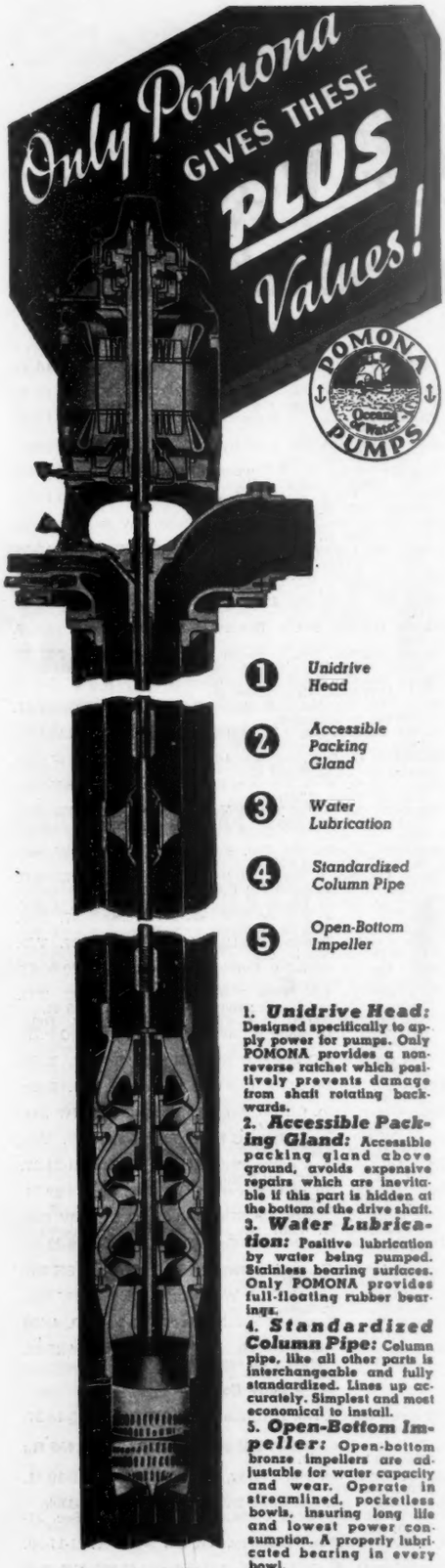
In Otero County, Fred Turner, Jr., No. 1 Everett, C SE SE Section 28-22-13, had spudded to 35 feet, but was plugged and abandoned.

Lea County

Addison Oil Co. No. 3 Knight, C NE NW Sec. 27-24-37. T.D. 3,212 ft.; set 7-in. csg.
Anderson & Prichard No. 3 Carlson-Harrison, SE NW SE Sec. 22-25-37. Drlg. 1,880 ft.
Anderson & Prichard No. 2 Stuart, SW SW NW Sec. 11-25-37. Drlg. 2,360 ft.
Anderson & Prichard No. 3 Wells, C NE NW Sec. 5-25-37. Drlg. 2,880 ft.
Continental Oil Co. No. 2 Britt B-15, C W½ SW NW Sec. 25-20-37. Drlg. 3,650 ft.
Continental Oil Co. No. 1 Hawk B-6, NW NW SE Sec. 6-21-37. Loc.
Continental Oil Co. No. 1-B-1 Lockhart, C SW NW Sec. 1-22-36. Drk.
Continental Oil Co. No. 1 Myer B-31, C NW SW Sec. 31-20-38. Drlg. 2,830 ft.
Continental Oil Co. et al No. 1 State G-36, C NW SW Sec. 36-17-35. Loc.
Continental Oil Co. No. 1 State I-7, NE NW NE Sec. 7-17-34. T.D. 4,500 ft.; S.D. repairs.
Continental Oil Co. No. 2-I-2 State, C NE SE Sec. 2-22-36. Drk.
Continental Oil Co. No. 1 State A-36, C SE SE Sec. 36-20-37. Drlg. 3,050 ft.
M. J. Delaney Drlg. Co. No. 1 State, C SE NW Sec. 30-17-35. Loc.
Walter Donnelly No. 1 Davis. C SE SW Sec. 33-23-37. Drlg. 1,150 ft.
Emperor Oil Co. No. 1 Humble-State, C SE SW Sec. 36-20-35. Cellar and pits.
Getty Oil Co. No. 3-F State, C NW NW Sec. 36-17-34. Drlg. 3,853 ft.
Great Western Prod. Co. No. 1 Leonard, C SE NE Sec. 32-23-37. T.D. 3,350 ft.; set 7-in. csg.
Gulf Oil Corp. No. 1 Alley, C NE SE Sec. 10-23-37. T.D. 3,713 ft.; S.I.
Gulf Oil Corp. No. 4 Day, SE SW NW Sec. 6-22-36. Drlg. 3,630 ft.
Gulf Oil Corp. No. 2-E Mattern, C NE SW Sec. 1-22-36. Drlg. 2,053 ft.
Helmerich & Payne and Continental Oil Co. No. 1-G-36 State, C NW SW Sec. 36-17-35. Drlg. 3,580 ft.
Humble O. & R. Co. No. 6 Fopeano, C NE NE Sec. 35-20-36. Drlg. 3,535 ft.
Humble O. & R. Co. No. 1-I State, C SW SW Sec. 19-17-35. Drk.
Magnolia Pet. Co. No. 2 Corrigan, C SE SE Sec. 33-21-37. Drlg. 3,450 ft.
Magnolia Pet. Co. No. 1-L State, C SE SW Sec. 21-17-35. Drlg. 4,473 ft.
Magnolia Pet. Co. No. 13 State-Bridges, C SW NW Sec. 25-17-34. T.D. 4,650 ft.; fsg.
Magnolia Pet. Co. No. 14 State-Bridges, C SW NE Sec. 25-17-34. Drlg. 4,251 ft.
Magnolia Pet. Co. No. 15 State-Bridges, C SW SE Sec. 26-17-34. Drlg. 3,771 ft.
Maljamar O. & G. Co. No. 10 Baish, C SW NW Sec. 22-17-32. T.D. 4,110 ft.; acd.
Maljamar O. & G. Co. No. 11 Baish, C NW NW Sec. 22-17-32. T.D. 3,847 ft.; W.O.S.T.
Maljamar O. & G. Co. No. 5 Mitchell, C NW NW Sec. 19-17-32. T.D. 4,033 ft.; P.B. 4,030 ft.; acd. and swb. 25 B.O.P.D.; tstg. on pump.
Maljamar O. & G. Co. No. 1-B State, C SW SE Sec. 16-17-32. T.D. 3,230 ft.; fsg.
Jas. A. Mascho No. 2 Cloyd, C SW SW Sec. 20-22-33. Drlg. 4,002 ft.
G. T. McLaughlin No. 1 Polhamus, NE Sec. 9-24-37. T.D. 3,672 ft.; P.B. 3,643 ft.; shot and S.I.
John Menke No. 1 Alexander, C NW NW Sec. 5-21-37. Drlg. 3,420 ft.
Ohio Oil Co. No. 1 State-Warn, C NW NW Sec. 6-18-35. T.D. 505 ft.; set 10¾-in. 497 ft.
Ohio Oil Co. No. 1 State-Bridges, C NE NE Sec. 20-17-34. Drlg. 2,735 ft.
Ohio Oil Co. No. 1 Wills, C NE NW Sec. 35-26-37. Loc.
Olean Pet. Co. No. 1 Boyd, C NW SW Sec. 23-22-37. Drlg. 2,250 ft.
Olean Pet. Co. No. 1 Ferrell, C NE SE Sec. 22-22-37. Drlg. 1,855 ft.
Parker Drlg. Co. No. 1-A State, C SW SW Sec. 21-22-37. T.D. 2,075 ft.; fsg.
Penrose & Rowan No. 1 Christmas, SE cor. Sec. 28-22-37. T.D. 3,690 ft.; flows by heads: C.O. 3,665 ft.
Lem Peters No. 1 Coll, NW SW SW Sec. 26-22-37. Drlg. 3,130 ft.
Lem Peters No. 4 L. J. May, SW SE NE Sec. 27-22-37. Drlg. 435 ft.
Lem Peters No. 2 T. O. May, NW NE NE Sec. 34-22-37. T.D. 1,145 ft.; set 8¼-in. csg.
Phillips Pet. Co. No. 3 Santa Fe, C SW NW Sec. 5-18-35. Drlg. 220 ft.
Phillips Pet. Co. No. 7 Santa Fe, C SE SW Sec. 27-17-35. T.D. 4,610 ft.; rng. tbg.
Phillips Pet. Co. No. 9 Santa Fe, C SE SE Sec. 21-17-35. Cg. 4,422 ft.
Repollo Oil Co. No. 2 Hair, NW SW NW Sec. 9-24-37. T.D. 3,560 ft.; tstg.
Repollo Oil Co. No. 2 Turner, SW NE SW Sec. 29-21-37. T.D. 3,803 ft.; shot; C.O.
Shell Pet. Corp. No. 1-B State, C SE SE Sec. 30-17-35. Drlg. 4,170 ft.
Shell Pet. Corp. No. 1-E State, C SE SW Sec. 31-17-35. Drlg. 1,480 ft.
Shell Pet. Corp. No. 1-G State, C SE SE Sec. 22-17-34. T.D. 4,420 ft.; S.D. repairs.
Shell Pet. Corp. No. 4-H State, W½ NE SE Sec. 13-21-35. Drlg. 2,206 ft.
Shell Pet. Corp. No. 1 Swigart, C NE SE Sec. 25-17-34. Drlg. 3,530 ft.
Skelly Oil Co. No. 1 Baker, C SW SW Sec. 10-22-37. Loc.
Skelly Oil Co. No. 6 Baker, C SW NE Sec. 27-22-37. Drlg. 1,690 ft.
Skelly Oil Co. No. 1 J. V. Baker, C SE SW Sec. 22-22-37. O.W.D.D.; drlg. 3,608 ft.
Skelly Oil Co. No. 1-B King, C NE SW Sec. 33-22-37. Moving in machine.
Skelly Oil Co. No. 1-M State, C SW SW Sec. 32-24-37. Drlg. 1,755 ft.
Stanolind O. & G. Co. No. 4-B Langlie, C NW SW Sec. 14-25-37. Drlg. 3,403 ft.
Stanolind O. & G. Co. No. 5-B Langlie, C SE SE Sec. 9-25-37. Drlg. 2,396 ft.
Standard Oil Co. of Texas No. 1 State, C SW NW Sec. 32-17-35. T.D. 4,705 ft.; P.B. 4,649 ft.; est. 10 B.O.P.D.; tstg.
Sou. Pet. Explo. Co. No. 4 Downes, C NW SW Sec. 32-21-37. Drlg. 1,500 ft.
Texas Co. No. 3 Black, C NW NE Sec. 21-24-37. T.D. 3,600 ft.; P.B. 3,495 ft.; C.O. on bttm.
Texas Co. No. 4 Black, C SE NW Sec. 21-24-37. C.&P.
Texas Co. No. 5 Fristoe, NW SE SE Sec. 3-25-37. T.D. 1,583 ft.; set 8¼-in. 1,281 ft.
Texas Co. No. 2 Fanning, C NW NE Sec. 4-26-37. T.D. 1,250 ft.; set 8⅝-in. csg.
Texas Co. No. 15 Lleu Lands, C SW NE Sec. 20-20-37. Drlg. 1,175 ft.
Texas Co. No. 1-N State, C SW SW Sec. 30-17-35. T.D. 4,850 ft.; P.B. 4,693 ft.; drlg. out plug at 4,675 ft.
Texas Co. No. 2-D State, C SW NW Sec. 27-17-34. Drlg. wtr. well; T.D. 4,860 ft.; acd. and flwd. 1½ B.O.P.H.; R.U. pump.
Texas Co. No. 3-Q State, C NW SE Sec. 25-17-34. Drlg. 2,818 ft.
Texas Co. No. 1-S State, C NW SW Sec. 35-17-34. Drlg. 2,650 ft.
Tide Water Asso. Oil Co. No. 1-L State, C NE NW Sec. 23-12-36. Drlg. 4,700 ft.
Twin Oil Co. No. 1 Hare, C SE SW Sec. 33-21-37. T.D. 1,203 ft.; set 8⅝-in. csg.
Twin Oil Co. No. 1 Joyce-Pruitt, C SE SE Sec. 31-21-37. T.D. 3,771 ft.; flwg. by heads.
Twin Oil Co. No. 2 Corrigan, C NE NE Sec. 4-22-37. T.D. 3,505 ft.; fsg.
Carr Drlg. & Expltn. Co. No. 1 State, C SW SW Sec. 22-17-35. Drlg. 4,367 ft.
Two States Oil Co. No. 3-B Cole, C SE NE Sec. 16-22-37. Drk.
Two States Oil Co. and Kaseman No. 2-A Hill, C SE SW Sec. 31-20-38. R.U.R.
Weier Drlg. Co. et al No. 1 Woolworth, NE NE SW Sec. 28-24-37. Drlg. 3,435 ft.
Weiner No. 1 Parcell, C SW NE Sec. 8-23-28. T.D. 4,498 ft.; S.D.O.
Weiner et al No. 2 Smith, NW SE NE Sec. 4-25-37. T.D. 1,350 ft.; set 8⅝-in. csg.

Eddy County

Adkinson Oil Co. No. 1 Brainard, SE SW SE Sec. 5-18-27. Loc.
F. E. Baker No. 1 Eddy, NE Sec. 12-22-27. T.D. 2,485 ft.; drlg. up lost tools.
Carper Drlg. Co. No. 1 Day, NE NE NE Sec. 3-19-31. Drlg. 1,350 ft.
B. Cockburn No. 1 State, C SW NE Sec. 16-18-31. Drk.
D. & B. Oil Co. No. 3-A Jenkins, SW SW NW Sec. 21-17-30. Loc.
D. & B. Oil Co. No. 3-A Berry, NW SW NW Sec. 21-17-30. Drlg. 1,650 ft.
Dominion O. & G. Co. No. 2 Johnson, C SE NE Sec. 35-16-31. Drlg. 3,522 ft.
Dominion O. & G. Co. No. 3 Johnson, C NE SW Sec. 35-16-31. Drlg. 880 ft.
English & Harmon No. 1 Dougherty, NE NE SW Sec. 3-17-27. T.D. 1,906 ft.; rng. csg.
Etz Bros. No. 5 State, SE NE SE Sec. 16-17-30. T.D. 498 ft.; set 8¼-in. csg.
Franklin Pet. Corp. No. 1 McIntyre, NW NE SE Sec. 20-17-30. T.D. 2,500 ft.; S.D. repairs.
Fullerton Oil Co. No. 1-A Johnson, C SE NW Sec. 35-16-31. T.D. 3,871 ft.; set 7-in. 3,446 ft.
Fullerton Oil Co. No. 1-A Little, C NE NE Sec. 28-18-31. Drlg. 1,660 ft.
H. A. Hartwell No. 1 Vandagriff, NE NE SE Sec. 8-18-27. T.D. 2,085 ft.; P.B. 2,072 ft.; P. 25 B.O.P.D.
C. F. Ingram No. 1 Page, NE NE SW Sec. 15-21-28. T.D. 2,400 ft.; S.D. for fuel.
F. G. Keys No. 2 State, C SE NE Sec. 9-17-28. Drlg. 1,480 ft.
Harry Leonard No. 1 Texas, NW NW NE Sec. 36-16-31. Drlg. 3,866 ft.



1. ***Unidrive Head:*** Designed specifically to apply power for pumps. Only POMONA provides a non-reverse ratchet which positively prevents damage from shaft rotating backwards.

2. ***Accessible Packing Gland:*** Accessible packing gland above ground, avoids expensive repairs which are inevitable if this part is hidden at the bottom of the drive shaft.

3. ***Water Lubrication:*** Positive lubrication by water being pumped. Stainless bearing surfaces. Only POMONA provides full-floating rubber bearings.

4. ***Standardized Column Pipe:*** Column pipe, like all other parts is interchangeable and fully standardized. Lines up accurately. Simplest and most economical to install.

5. ***Open-Bottom Impeller:*** Open-bottom bronze impellers are adjustable for water capacity and wear. Operate in streamlined, pocketless bowls, insuring long life and lowest power consumption. A properly lubricated bearing in every bowl.

POMONA PUMP CO. Manufacturing Plants: Pomona, Calif.; St. Louis, Mo. Branch Offices: New York, Chicago, Los Angeles, and San Francisco.

POMONA
Water-Lubricated Turbine
PUMPS

Martin-Yates No. 1 Bowers, SW SE SE Sec. 31-19-27. R.U. machine.
Peyton Bros. No. 2 Ginsberg, C SE SE Sec. 8-18-31. T.D. 3,185 ft.; flwd. 38 B.O.P.D.; S.I.
Peyton Bros. No. 1 Erwin, C SW SW Sec. 9-18-31. Loc.
Premier Pet. Co. No. 1 Maddren-Beeson, NE SW SE Sec. 28-17-30. Drlg. 1,425 ft.
Repollo Oil Co. No. 3 Beeson, SE NE SE Sec. 28-17-30. Drlg. 2,260 ft.
Western Drlg. Co. No. 2-A Western, SE SE NW Sec. 23-17-29. Drlg. 2,852 ft.
Neil H. Wills No. 2 Colglazier, SW SW NE Sec. 20-20-30. Drlg. 135 ft.
Neil H. Wills No. 2 Stovall-Wood, SE SE NW Sec. 20-20-30. T.D. 1,415 ft.; est. 75 B.O. on swab.
Yates-Dooley No. 1 Creek, C SW NE Sec. 35-18-30. Drlg. 1,720 ft.

Chaves County

E. J. Fisher No. 1 Foster, C NW NW Sec. 7-15-26. T.D. 562 ft.; S.D.O.
Nay Hightower No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 20 ft.; R.U.S.T.
Interstate Minerals, Inc., No. 1 Dunigan, NW cor. Sec. 15-15-30. T.D. 2,485 ft.; S.D. for csg.
J. & L. Drlg. Co. No. 2 Hurd, SW Sec. 11-11-26. Drlg. 1,140 ft.

De Baca County

N. F. Woods No. 1 Jones, C NE SW Sec. 17-4n-20. T.D. 190 ft.; S.D.O.
James D. Ward No. 1 Summers, SE NE SW Sec. 15-4n-24e. T.D. 404 ft.; S.D. repairs.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 Pajarito, Sec. 22-9n-1e. Dk.; contr. to Elmer J. Fisher.
Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW Sec. 10-11n-4e. Drlg. below 3,950 ft.

McKinley County

Claude Walker No. 7 fee, SW SW SE Section 20-20n-9w, Red Mountain district, was completed for 5 bbls. per day from sand at 415-25 feet. Total depth, 520 feet.

Petroleum Production Corp. No. 1 Santa Fe, NE NE NW Sec. 1-17n-9w. Drlg. 600 ft. (form. New State Oil Co.)

Rio Arriba County

Continental Oil Co.-L. M. Hughes No. 1 Esquibel, unsurveyed; approx. Sec. 1-28n-4e. Drlg. 1,618 ft.
Oil City Pet. Co. No. 1 Azotea, SW SW NE Sec. 11-31n-2e. Spdg.

San Juan County

The Continental Oil Co. No. 79 Rattlesnake, C SW Section 1-29n-19w, Rattlesnake field, was dry and abandoned at 915 feet. It had water in the Dakota. It was an outpost on the east side.

Jack Amenda No. 1, NE NE Sec. 14-29n-13w. Drlg. below 100 ft.
Al Greer No. 2 fee, SW SE SW Sec. 10-30-11w. S.D. 660 ft. for 10-in.
Anna Oil Corp. No. 6 Govt., SW NE NE Sec. 33-30n-11w. S.D. 1,893 ft.

Socorro County

Central New Mexico Oil Co. No. 1 Belen gr., SE NW Sec. 16-3n-1e. T.D. 2,965 ft. (C.D.); C.O.

Torrance County

Drice Co. No. 1 Garland, NE SE NE Sec. 32-7n-7e. Drlg. 1,080 ft. hd. L.
Estancia Valley Carbon-Dioxide Dev. Co. No. 1 Crawford, SE NE NE Sec. 32-7n-7e. Drlg. 940 ft. sh.

Valencia County

Old Spanish Grants, Inc., No. 1 San Clemente, C SE SW Sec. 23-7n-1e. Drk.; W.O. rotary.
C. A. Grober et al No. 1 Fuqua, NE NE Sec. 19-5n-3e. T.D. 900 ft.; R.U.R.

COLORADO

Archuleta County

Boone Dev. Co. No. 1 Newton, SE NW SE Sec. 18-33n-1e. T.D. 303 ft.; W.O. 10-in.
Pagosa Oil & Dev. Co. No. 1 Macht, C Sec. 32-36-1w. T.D. 1,840 ft.; rng. 6¼-in. with bttm. hole packer to top Dakota.

Baca County

The Pure Oil Co. has moved two core drills into the southeastern corner of Baca County, southeastern Colorado, and the Shell Petroleum Corp. has a magnetometer party working in the southern part of the county. Both parties have their headquarters at Boise, Cimarron County, Oklahoma.

Elbert County

Plymouth Oil Co. No. 1 Brosky-Union Pacific, C SW SW Sec. 19-10s-60w. Spd. Aug. 24.

Fremont County

Stanley Thomas No. 1 Rickwait, SE SE Sec. 2-19s-70w. Drlg. 1,915 ft.; S.O.; 5⅛-in. at 1,818 ft., not cmtd.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE Sec. 36-7s-88w. S.D.O. 1,245 ft.; failed to S.O.W. at 565 ft. with 8¼-in. at 725 ft. and 6⅝-in. mudded at 875 ft.

Grand County

Interstate O. & R. Co. No. 1 Hinman, NE SE NW Sec. 11-2n-81w. S.D. 3,920 ft.; will D.D. to Morrison.

Hueriano County

J. G. Tomkins & Sons No. 1 Pressey, NE NE NE Sec. 10-29s-69w. S.D. 411 ft.; (prospecting for coal).
S. W. Pressey No. 2 Alamo, C SW SE Sec. 3-27s-68w. S.D. 1,320 ft.

LaPlata County

N. Spatter No. 1-X Bryce, SE SW SW Sec. 31-33n-9w. Drlg. below 1,610 ft.

Las Animas County

Garcia Corp. No. 1 McClung, NE NW SE Sec. 19-33s-61w. Drlg. 2,308 ft.

Lincoln County

The Consolidated Smelting & Metals Corp. No. 1 Hancock, NE NE SW Section 7-17s-52w, Haswell district, which has been shut down at 2,888 feet in red beds, will run 6¼-inch and then drill ahead with a 25-pound diamond bit.

Mesa County

Continental Oil Co. et al No. 1 Miller, SW SW NW Sec. 36-8s-91w. Drlg. 6,572 ft.

Moffat County

Morapas Pet. Corp. No. 1 Coles, SW SW SE Sec. 1-3n-92w. S.D. 2,750 ft. for 8¼-in.
C. R. Privett No. 1 Sutton, NE NE SW Sec. 1-5n-96w. S.D. 530 ft.; run and cmt. 10-in.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW Sec. 31-36s-17w. S.D. 4,720 ft. for repairs.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 6,065 ft. in sdy. sh.; S.O. 3 B.P.D.

Prowers County

Continental Oil Co. No. 1 Ruby, C NE NW Sec. 31-21s-44w. Cg. 5,111 ft.; D.P. rec.

Pueblo County

Eden O. & G. Co. No. 1 Horse Creek, SW SE Sec. 29-19s-64w. Drlg. 400 ft.; Pierre sh.
C. E. Puckett No. 1 Barber, NW Sec. 35-21s-66w. S.D. 700 ft.; prep. to run 6¼-in.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW Sec. 16-1n-91w. Drlg. 2,715 ft. anhyd.

Routt County

L. C. Craig and E. L. Moore No. 1-X Erwin, C SW NE Sec. 33-7n-85w. Spdg. 125 ft.
Mid-Colorado Pet. Co. No. 1 Omholt, NE NE SE Sec. 29-4n-87w. Drlg. white sd. at 3,140 ft.; top 3,120 ft.
Steamboat Springs Drlg. Synd. No. 1 Brown, C NW NE Sec. 1-8n-86w. T.D. 1,100 ft.; W.O. csg.

WYOMING

Big Horn County

A. L. Rankin No. 1 Karjajla-Rankin, C SW NW Sec. 10-54n-94w. Cmtd. 8¼-in. 450 ft.; W.O.C.
Prescott & Mileski No. 1 Govt., NE NW SW Sec. 15-1n-93w. Drlg. 820 ft.
Clifford S. Johnson No. 1 Johnson, CEL NW NW Sec. 24-51n-93w. Rig; W.O. engine.
Joan Oil Co. No. 1 Howell, NE NW NE Sec. 32-55n-97w. T.D. 2,420 ft.; fsg.

Campbell County

Frye & Kreiner No. 2, CSL NW NW Sec. 6-50n-72w. T.D. 723 ft.; rng. 5⅛-in. for W.S.O.

Carbon County

Ohio Oil Co.-California Co. No. 5-A Kyle, C NE NW Sec. 26-21n-97w. Bldg. rig.
Ohio Oil Co. No. 2-A Baker, NW SW SW Sec. 2-23n-79w. T.D. 890 ft.; cmtd. 10-in. 708 ft.; W.O.C.
Sinclair-Wyoming Oil Co. No. 3 Mahoney, C SE NW Sec. 34-26n-88w. Drlg. 2,997 ft.
Ohio Oil Co.-California Co. No. 3-A Kyle, C SW NE Sec. 26-21n-79w. Drlg. 7,337 ft. in 20° dip beds in Tensleep; will test Madison and possibly go to granite.
Priducers Oil Co. No. 1 Lake Valley, 200 ft. C of CNL Sec. 14-20n-88w. Drlg. 1,916 ft.

Converse County

Jack Decker et al No. 1 Simonson, NW NE SE Sec. 16-32n-68w. Drlg. 565 ft.
Wyshawn Oil Co. No. 2 Lindley, C SW SW Sec. 35-32n-69w. Drlg. 1,500 ft. r.b.
Fred Bunker No. 1 Pestal, SE NE NE Sec. 32-32n-69w. Drlg. 375 ft.
New Era Fuel Co. No. 2 Mary Gasper, CNL NW SW Sec. 25-32n-69w. T.D. 670 ft.; cmtd. 6⅝-in. at 655 ft.
Wyshawn Oil Co. No. 1 Lindley, NW SE SE Sec. 34-32n-69w. T.D. 2,000 ft.; R.U. standard tools; will U.R. 8¼-in. to top Minnelusa.
Wyoming Southern Oil Co. No. 1 Winda, SW NE NW Sec. 6-31n-69w. Loc.

Fremont County

While the tribal council of 12 men representing the Shoshone and Arapahoe Indian tribes have rejected an offer of the operating companies in the Maverick Springs field to extend their leases for 20 years on an annual rental basis of $1 per acre, negotiations have not been concluded, it is stated. The extension under the plan proposed provided that the marketing of oil should begin in the meantime only if current crude supplies should become sufficiently curtailed to make the marketing of the oil profitable. The Indian council and the business men of the district insist that the operation of the field should begin at once.

Approximately 1,400 acres of land in the field have been proven in the Embar with 32 wells which have been shut in for the past 20 years due to the lack of an economical market that would justify production. The oil is a low grade of crude with asphalt base and the field in the center of Fremont County has no railroad or pipe line facilities and the operators have contended that these facilities could not be constructed and the oil marketed at a profit under existing conditions. An extended hearing on the matter took place last June which was attended by Oscar Chapman,

assistant Secretary of the Interior. The potential developed production is around 7,000 bbls. per day. Negotiations are continuing and just what will be the outcome is not yet known.

Lincoln O. & G. Co. No. 1 Shoshone, NW NW SE Sec. 23-1s-1e. Drlg. 305 ft.
Tropic Oil Co. No. 1 Govt., C SE SW Sec. 34-27n-90w. T.D. 3,378 ft.; fsg.
Consolidated Oil Properties No. 3 Ewart, C SW SE Sec. 16-1n-1w. Drlg. 1,141 ft.
Ben Stewart No. 1 Darnell, NE SE Sec. 26-3n-1w. S.D. 2,245 ft. for 7-in.
C. E. Nelson No. 8 fee, CWL NE SW Sec. 27-3n-1w. Drlg. 400 ft.

Hot Springs County

D. D. Gibson No. 22 fee, NE NW SW Sec. 35-43n-94w. Drlg. 1,006 ft.
Italo Pet. Co. No. 1 Skelton-Govt., SE SW NE Sec. 13-44n-98w. T.D. 300 ft.; trying to set 20-in. at 215 ft. for W.S.O.
J. W. Balles No. 1 Govt., SE SW Sec. 28-43n-93w. T.D. 1,082 ft.; P.B. to 1,015 ft.; tstg.
California Expltn. Co. No. 1 Govt., NE SE NE Sec. 12-44n-97w. T.D. 4,100 ft.; W. in Tensleep; prob. abd.

Lincoln County

H. C. Harris et al No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. 865 ft.

Natrona County

General Pet. Corp. No. 1 State, NW NE SE Sec. 16-35n-77w. Drlg. 1,760 ft. in 10⅛-in. hole; cmtd. welded string 16-in. at 1,235 ft.
Stanolind O. & G. Co. No. 26 T.P.-Wyo. Asso., C SE SW Sec. 26-40n-79w. T.D. 4,050 ft.; top Tensleep 3,892 ft.; cmtd. 6⅝-in. at 4,060 ft.; tstg.
Stanolind O. & G. Co. No. 8 T.P.-Midwest Oil, C NW SW Sec. 35-40n-79w. Drlg. 1,860 ft.

Niobrara County

Continental Oil Co. No. 13 Tom Bell, SE NE SE Sec. 33-36n-65w. Loc.
Ohio Oil Co. No. 11 Lamb Acct. 2, SW SE SE Sec. 5-35n-65w. Cmtd. 13⅜-in. 284 ft.; W.O.C.
Fall River Royalty & Producers Co. No. 1 Govt., CSL SE SE Sec. 35-40n-61w. S.D. 275 ft. for 15½-in.; top Dak. 265 ft.
Continental Oil Co. No. 3 Apex-3, NW NE NW Sec. 34-36n-65w. Drlg. 5,005 ft.; top Minnekata 4,650 ft.; top Spearfish r.b. 4,090 ft.
Continental Oil Co. No. 7-B Schuricht, NW NW SE Sec. 6-35n-65w. Loc.
H. D. Moore et al No. 1 Beregren, NW Sec. 23-35n-63w. Drlg. 1,365 ft.
Continental Oil Co. No. 4-A Diehlman, NE NW NE Sec. 8-35n-65w. Loc. (W. offset to Minnelusa Oil Co. No. 1 H. & M.-3).
Adams Oil & Gas Co. No. 1 Baker, NE NE SW Sec. 8-35n-65w. Tent. loc.

Park County

Ohio Oil Co. No. 1 Trans-Ark., CSL SW SW Sec. 30-57n-98w. Drlg. 6,163 ft. after replacing wooden dk. with 122-ft. steel dk.
Valentine & Watson No. 1 Johnson, NE NE NE Sec. 6-57n-99w. T.D. 2,490 ft.; fsg.; 1,300 ft. O.I.H.
Resolute Oil Co. No. 2 State, C SW SW Sec. 16-57n-101w. Drlg. 6,600 ft.
Continental Oil Co. No. 1 Northern Pacific, SE SE NW Sec. 23-58n-98w. Drlg. 2,919 ft.

Sublette County

Frontier Pet. Co. No. 1 Govt., SE SE SW Sec. 1-28-114w. Drlg. 2,160 ft.
Yellowstone Oil Co. No. 1, 200 ft. N of S line of the H. L. Budd ranch, SE SE Sec. 31-31n-112w. S.D. 100 ft.
Wyo. Pet. Co. No. 1 Chas. Budd, C NE NE Sec. 10-29n-113w. S.D. 650 ft. for 4-in. D.P.
Progressive Oil Co. No. 1 Haddenham, C NE SE Sec. 21-28n-113w. Drlg. 832 ft.
Texas Co. No. 3-G NE NW SW Sec. 27-27n-113w. M.I.M. (first report).

Sweetwater County

The Selegna Oil Co. No. 1 Union Pacific, SW SW Section 11-20n-104w, an outpost well on the northwest in North Baxter basin, which was reported abandoned at 4,966 feet last June after finding water in a drill stem test in the Morrison, is preparing to drill deeper to test the basal Sundance. The Morrison sand was at 4,505-35 feet. It had a show of oil in the Dakota.

Sinclair-Wyoming Oil Co. No. 79 Lost Soldier, SE NE NE Sec. 10-26n-90w. Drlg. 630 ft.

Uinta County

Stove Creek Oil Co. No. 1 Govt., C SE NW Sec. 26-14n-119w. Res. at 1,400 ft.
Stove Creek Oil Co. No. 2 Govt., C SW NW Sec. 26-14n-119w. S.D. 300 ft.

Washakie County

Fison Oil Co. No. 1 Govt., CSL NE SE Sec. 24-47n-90w. (Sherard dome). Set 8¼-in. at 116 ft.; W.O.C.
Paul Boether No. 1 Govt. SW NW Sec. 4-47n-90w. R.U.

Weston County

Updike Bros. No. 1, NE SW NE Sec. 35-46n-64w. M. I.M.
Hugh Updike No. 1, CEL NW SE Sec. 15-46n-64w. R.U.
Federal Oil Co. No. 9, CNL SE SE Sec. 15-46n-64w. Ready to spd.
Des Moines-Osage Oil Co. No. 15, SW SW SE Sec. 30-46n-63w. Cmtd. csg. 1,367 ft.; top of sd.; W.O.C.
Geo. Keisling No. 1, NW NE NE Sec. 35-46n-64w. Set 8¼-in. through Greenhorn at 1,160 ft.; top 1,029 ft.; W.O.C.
Gose Oil Synd. No. 1, NE NE NE Sec. 28-47n-63w. C.O. after landing 4½-in. at 4,900 ft.
West Osage Oil Co. No. 3, SW SE NE Sec. 15-46n-64w. Hd. tight sd. 2,140-54 ft.; will shoot.
John Brorphy No. 1 George, SW SE NW Sec. 26-48n-64w. Drlg. 2,190 ft.; cmtd. 5½-in. at 2,090 ft.

MONTANA

Big Horn County

F. J. Buzetti and C. A. Corkins are reported moving in materials for a test about 3 miles west of Hardin. Contract has been let to the Slagle Drilling Co. Plans call for a 20-inch conductor string with the 15½-inch to the top of the Frontier and the 12¼-inch to the top of the Dakota at 2,000 feet.

Buzetti & Corkins No. 1, NE NW Sec. 23-1s-32e. M.I.M. (first report).

Carbon County

R. C. Tarrant No. 2, SE NW Sec. 4-6s-18e. Drlg. 1,925 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW Sec. 35-9s-23e. S.D. 1,810 ft.
R. C. Tarrant No. 2 Heare, NW SE NW Sec. 14-6s-19e. Cmtd. 8¼-in. at 2,335 ft.
Sha-Wa Pet. Co. No. 1 Govt., SW NW NE Sec. 35-9s-23e. S.D. 3,124 ft.
Miracle Oil Co. No. 2 Govt., CWL NE SE Sec. 3-6s-23e. T.D. 2,337 ft. (C.D.); C.O. to res.; will U.R. to bttm. and set csg.

Choteau County

Security Pet. Corp. No. 1 Johnson, C NE Sec. 23-26n-3e. Drlg. 1,980 ft.; had 17 ft. dry Sunburst sd.

Dawson County

Frank C. Hughes No. 1 fee, NW NE SE Sec. 5-14n-55w. Drlg. 1,095 ft.

Daniels County

White Tail Oil & Gas Co. No. 2 Wiley, NW NW NW Sec. 10-36n-50e. T.D. 1,884 ft.; res. under new mngmt.

Fallon County

Montana-Dakota Utilities Co. No. 45, Unit 7, SE NW SW Sec. 15-6n-60e. Drlg. 190 ft.

Fergus County

Baughman & Singley No. 1 Skaggs, C NW SW Sec. 7-15n-20e. S.D. 1,120 ft.

Glacier County

The register of the land office at Great Falls will offer at auction on September 22 three units at the northern end of the Cut Bank field. Unit No. 1 consists of 160 acres in Sections 18 and 19-35n-4w; Unit No. 2, 200 acres in Section 2-35n-5w and Sections 22, 29 and 35-36n-5w; and Unit No. 3, 40 acres in Section 26-35n-5w.

There were one completion, a dry hole, and one new operation in Cut Bank. The Santa Rita Oil & Gas Co. No. 1 State, NW NW SW Section 36-34n-6w, was plugged back and abandoned at 3,000 feet after finding the Cut Bank at 2,965-72 feet dry. It is an east offset to K. D. Pardee No. 1 Corrigeaux, which was reported a year ago completed for 215 bbls. first 24 hours on the pump.

Glacier Prod. Co. No. 1 Mather Unit, SW NE SW Sec. 36-35n-5w. Loc. (first report).
Texas Co. No. 2 Govt., NE NW NE Sec. 17-32n-5w. R.U.
Par Oil Co. No. 1 Tribal-170, SW NW SW Sec. 7-32n-5w. R.U.
Santa Rita O. & G. Co. No. 4 Govt., SE SE SW Sec. 5-32n-5w. Drlg. 1,225 ft.; 10¾-in. 570 ft.
K. D. Pardee No. 1 Tribal-179, SE NW SE Sec. 12-32n-6w. Drlg. 430 ft.
Dr. Peter Potter No. 3 All.-125, NE NW NE Sec. 12-32n-6w. Drlg. 2,450 ft.
Lawler No. 3 Hoerr-Harlan, NE SW SW Sec. 5-33n-5w. Drlg. 1,540 ft.
Glacier Prod. Co. No. 2 Mueller, CSL NE NE Sec. 18-33n-5w. Drlg. 2,600 ft.
A. R. Pardue No. 1 Tribal-171, SE SE SW Sec. 7-32n-5w. Cmtd. 7-in. 2,672 ft.; W.O.C.
Santa Rita O. & G. Co. No. 3 Lander, C S½ SE Sec. 16-35n-6w. Loc.
Nadeau Bros. No. 5 Farmers State Bank, CEL SE NE Sec. 17-33-5w. Drlg. 2,785 ft.

Park County

Ben Ryan et al No. 1 Burgess, SE SW NW Sec. 28-2s-11e. Drlg. 1,550 ft.

Petroleum County

Watson Oil Co. No. 1 Austed, SW NW SE Sec. 22-13n-28e. T.D. 445 ft.; W.O. 15½-in.
O. B. Canfield No. 2 Govt., SE NE NE Sec. 21-17-24e. Drlg. 779 ft.

Pondera County

Jones-Chambers No. 1 Erickson, SW SE SW Sec. 3-27n-4w. S.D. 1,932 ft.; will pull 7-in.; U.R. 10-in. and drill to Devonian.

Teton County

California Co. No. 1 Unit, NE SE SW Sec. 26-27n-9w. Drlg. below 256 ft.
Gulf State Oil-Zodiac Oil Co. No. 1 Coffee-Wallenstein, SW SW SW Sec. 5-27n-5w. Drlg. 2,500 ft. (C.D.); top Madison 2,396 ft.; 8⅝-in. 2,442 ft.

Toole County

There were two completions and one new operation in the Kevin-Sunburst field and one completion in the Bow and Arrow district.

Casper T. Oien No. 8 Engermoin, SW NE SW Section 11-35n-2w, was completed at 1,630 feet and pumped 160 bbls. first day and 140 bbls. second day. The Ellis-Madison contact was at 1,610 feet. It was drilled to this depth last June and has been standing since after acidizing.

O. A. Nepstad No. 2 Haugen, NW cor. NE Section 11-35n-3w, was completed at 1,848 feet and is pumping 8 bbls. per day after acidizing. Contact was at 1,833 feet.

The Montana Gas Corp. No. 2 Clark, C SE SW Section 24-37n-1w, Bow and Arrow dome, was completed as a gas well at 2,140 feet after plugging back from

SECURITY
LEAD SEAL PACKER
with Circulating Joint

Here's a new production packer that has already made a big name for itself in California multiple production work. For positive simplicity and fool-proof operation you've never seen a packer like it...

★ You just run it in the hole and it sets *automatically* at exactly the right spot.

★ It positively cannot be set too high or too low in the well.

★ It releases instantly with only a straight pull.

★ It is available both in steel and "Securaloy"—the new drillable oilfield metal!

THE SECURITY CIRCULATING JOINT, when used in conjunction with the Lead Seal Packer, provides a means for circulating between strings to bring in the well, clean out sand, etc. A straight lift on the production string opens circulating ports in each side of the joint. In the closed position these ports are made fluid-tight by a lead seal ring. Available in both steel and "Securaloy"—the new drillable oilfield metal.

Write today for illustrated bulletin describing these outstanding new devices!

SECURITY ENGINEERING CO., INC.
WHITTIER, CALIFORNIA
Export: Security Engineering Co., Inc. • 420 Lexington Ave. N.Y.C.
Sweets Reamers • Securaloy • Security Drillable Products

2,630 feet. It is a west offset to the discovery well on this dome. It encountered water in the Madison and plugged back to the Sunburst, top at 2,103 feet. Gauge not reported, but on the way down it was estimated at 2,500,000 feet.

Consolidated Gas Co. No. 3 Lutz, C SW NW Sec. 34-33n-2w. Drlg. 600 ft. (first report).
Big West Oil Co. No. 3 Engle, CSL SW SW Sec. 1-35n-3w. T.D. 1,625 ft.; drlg. by 80 ft. csg. in hole.
Lion Oil Prod. Co. No. 4 Haugen, NE SE SE Sec. 11-35n-3w. T.D. 1,756 ft.; contact 1,739-40 ft.; will acid.
C. D. Stock No. 3 Haggerty, SE NW SW Sec. 13-35n-2w. Drlg. 1,530 ft. Madison L.; contact 1,480 ft.; sat. in L. break.
Kluth et al No. 1 Gunderson, SE SW SW Sec. 18-35n-2w. T.D. 1,643 ft.; contact 1,640 ft.; S.O.; acid.; no results; will D.D.
W. M. Cassidy No. 1 Phoenix, CNL NW NW Sec. 28-35n-4w. T.D. 1,225 ft.; fshg. 10-in. bit.
Fulton-Commonwealth No. 2 Thompson, NW NE SW Sec. 28-35n-3w. Cmtd. 12¼-in. at 95 ft.; W.O.C.
General Oils, Ltd. No. 1 State, SW SE SE Sec. 36-35n-4w. T.D. 1,856 ft.; Sunburst 1,590-1,620 ft.; contact 1,853 ft.; acd. second time 500 gals.; no results; D.D.
A. E. Crumley & Son No. 13 Fryberger, CNL NW SE Sec. 24-35n-3w. T.D. 1,610 ft.; pmpg. 10 B.P.D. naturally; will acd. later.
Big West Oil Co. No. 2 Engle, SE SW SW Sec. 1-35n-3w. T.D. 1,602 ft.; sd. 1,573-1,602 ft.; shot 70 qts.; no results; shot again 50 qts.

R. G. Parrant No. 1 Engstrom, NW NW NW Sec. 13-35n-3w. T.D. 1,586 ft.; rng. 7-in.
V. F. Dahl No. 1 Kimball, SW SE SE Sec. 1-35n-3w. T.D. 1,807 ft.; break at 1,786-1,801 ft.; S.O.; acid. 1,000 gals.
Pfabe & Engleking No. 2 Hurley, NE NE NW Sec. 8-34n-2w. S.D. 1,456 ft.; would not take acid.; will shoot.
H. C. Morton No. 8 Morton, C SW NW Sec. 24-34-2w. S.D. 650 ft.
Chas. Grant et al No. 1 Anderson, SE NE NE Sec. 26-35n-4w. S.D. 2,109 ft.

Yellowstone County

Broadview Dome Oil Co. No. 1 Stallinberger, NE NE SW Sec. 18-3n-23e. S.D. 4,565 ft.; to resume.
Riverton Oil Co. No. 1 Fox, CEL NW NE Sec. 14-2n-23e. T.D. 1,795 ft.; U.R. 10-in. to set at 1,650 ft.

UTAH

Grand County

Cane Creek Oil Co. No. 1 Govt., NW SW Sec. 31-26n-21e. S.D. 1,600 ft.
Crescent Eagle Oil Co. No. 1 Brendel, SW SE Sec. 4-22s-19e. Drlg. 4,010 ft.

Summit County

Mountain Fuel Supply Co. No. 1 Wilde, NE SE SE Sec. 9-2n-5e. Drlg. 5,131 ft. in Frontier.
Longwell Pet. Co. No. 1, SE SW SE Sec. 35-3n-5e. T.D. 2,876 ft.; sdtrkg.

NORTH DAKOTA

Williams County

California Co. No. 1 Kamp, C NW NE Sec. 3-154n-96w. T.D. 10,281 ft.; D.P. stuck; circ. oil to loosen.

NEBRASKA

Garden County

Bergman & Bull No. 1, Sec. 12-16n-42w. R.U.C.T.

Keith County

Twentieth Century Oil Co. No. 1 Stuken, C NW NW Sec. 21-14n-37w. Drlg. sh. 1,200 ft.

Scotts Bluff County

Houston Pet. Co. No. 1 Judd, NE NE NE Sec. 15-22n-57w. Spd. and S.D.

Sioux County

Felmont Oil Corp. No. 1, C SW NE Sec. 21-27n-55w. Drlg. 5,600 ft.; thru Sundance; W. in Dakota, Lakota and Sundance.
Union Oil Co. of Calif. No. 1 Agate-15, NW SE SE Sec. 15-28-55w. T.D. 6,890 ft.; cmtd. whipstock 4,700 ft. to drill by drill pipe.

Pawnee County

Blazer & McClure et al No. 1 Allen, NW NE SW Sec. 16-1n-10e, set 5-in. csg. at 587 ft.; R.U.S.T. at 587 ft.; drlg. 590 ft.

Richardson County

H. C. Stevens and Ed Uhri No. 1 Harlow Est., C SE NE Sec. 32-1n-13e. S.D. 700 ft.

Hastings County

V. N. Souligny et al No. 1 Katzberg, C SW Sec. 26-7n-10w. Rig.

McPherson County

Nebraska Oil Corp. No. 1 McConnell, SE SE NE Sec. 25-17n-31w. Set 4-in. csg. 1,735 ft.; drlg. 2,423 ft.
Pawnee Oil Co. No. 1 Childerston, C NW Sec. 28-18n-31w. M.I.M.

Dawes County

Huber Pet. No. 1 State, SW NE Sec. 16-33n-51w. Rotary; S.D.

Rocky Mountain Runs

WYOMING

Production estimates for week ended August 27, 1938:

	(Bbls.)
Salt Creek	15,530
Big Muddy	1,180
Badger Basin	100
Black Mountain	130
Byron	4,250
Cole Creek	100
Dallas Derby	350
Dewey dome	130
Dutton Creek	50
Elk Basin	690
Frannie	1,520
Garland	2,650
Grass Creek	2,210
Hamilton dome	1,020
Hidden dome	110
Hudson	250
LaBarge	750
Lance Creek	16,810
Lost Soldier	1,580
Medicine Bow	3,180
Mule Creek	90
Midway	30
Oregon Basin	4,000
Osage	760
Pilot Butte	10
Quealy dome	760
Rock River	1,410
South Casper	90
Spindletop	30
Poison Spider	260
Teapot	20
Warm Springs	140
Wertz	960
Total Wyoming	61,150

MONTANA

Border	70
Cat Creek	610
Cut Bank	7,560
Dry Creek	440
Kevin-Sunburst	3,650
Pondera	650
Total Montana	12,980

COLORADO

Florence	120
Fort Collins & Wellington	330
Iles dome	2,080
Moffat	330
Orchard	40
Rangely	90
Tow Creek	180
Price	490
Total Colorado	3,660

NEW MEXICO

Cooper	3,990
Eaves	940
Eunice	25,520
Hardy	2,380
Hobbs	14,770
Jal	1,110
Langlie	4,270
Lynch	580
Lynn	890
Mattix	3,180
Monument	26,440
North Lynch	40
Penrose	5,480
Rhoades	170
Skelly	1,920
South Eunice	3,120
Vacuum	3,190
Artesia-Maljamar	6,670
Getty	300
Hogback	200
Rattlesnake	770
Table Mesa	80
Total New Mexico	107,010
Total Rocky Mountain region	184,800

The PROTECTOR that Stays put
Showing details of the tapered locking key—exclusive feature that gives Grizzly Giant its powerful grip on the pipe.
A BEAR for WEAR
Grizzly Giant is the best protection available for drill pipe and casing. The exclusive locking arrangement provides a powerful grip that positively prevents working loose, piling up, or snapping off; and yet can be installed and removed easily by one man. It "stays put" and assures complete protection all the way to bottom in the deepest, toughest wells. Ask your supply company.
E. M. SMITH COMPANY
600-650 South Clarence Street, Los Angeles, California
Complete Stocks Maintained In Our Warehouses At: 1121 Rothwell St., Section 18, Houston, Texas. 1008 S.E. 29th St., Oklahoma City, Okla. Export Office: Continental Emsco Co., 30 Rockefeller Plaza, New York, N.Y. Distributed by Leading Supply Companies
GRIZZLY GIANT Streamline
DRILL PIPE PROTECTOR

Oklahoma Operations

By
DAL DALRYMPLE

Eleventh Ramsey Oil Well Has 13,428-Bbl. Potential

The Ramsey pool in Payne County, Okla., was given its eleventh well and second largest producer Sunday with the washing in of Mid-Continent Petroleum Corp. and others No. 4 Columbia, SW NW SW Section 18-18-2e. It made potential of 13,428 bbls. of oil from Wilcox sand at 4,745-85 feet. Potential was based on a 4-hour test, the well flowing 588 bbls., 548 bbls., 496 bbls. and 605 bbls. of oil in successive hours. It extends production one location southward. Two other wells in the pool are due for early completion.

Olson Oil Co. and others No. 1 Vanek, SE SW NE Section 4-12-3w, pool opener south of Britton in Oklahoma County, was bottomed at 6,776 feet, plugged back to 6,771 feet to shut off water and was waiting on cement at time of writing. On latest test it flowed 252 bbls. of oil, with 6 per cent water and sediment, daily. The Kerlyn Oil Co. No. 1 Orphanage, SE SW NW Section 21-13-3w, north of Britton, was drilling below 5,040 feet in shale.

Denver Producing & Refining Co. No. 1 Horton, NE NW NE Section 22-19-1e, wildcat between the Orlando and Ramsey pools in Payne County, was bottomed at 5,028 feet in white Wilcox sand and was making Schlumberger test.

Wildcat Activity

Atlantic Refining Co. opened a new producing area between the St. Louis and Asher pools in Pottawatomie County at No. 1-A McCurry, NW NE SW Section 6-6-4e. It found Viola lime pay at 4,206-08 feet, total depth 4,209½ feet, with top of the lime at 4,179 feet. It flowed 107 bbls. of oil through tubing in seven hours; was acidized, and flowed 608 bbls. of oil net in the first 10½ hours. On full 24-hour test, it flowed 368 bbls. of oil through one-half inch choke.

Fain Drilling Co. and others No. 1 Little, SW SW NE Section 28-11-3w, wildcat southwest of the Oklahoma City field in Oklahoma County, was given up as a failure after having shown as a possible producer. It was dry and abandoned at 7,006 feet, total depth, with salt water in the hole. Second Wilcox sand was topped at 6,952 feet. Sand cores carried some shows, stains and odors of oil, leading to the belief the well had production possibilities, although it was running structurally low in comparison with producers in the nearby Oklahoma City field. Water prevailed as the hole was deepened, however.

Troup & Strickland No. 1 Brown, NW SW NE Section 32-6-8, Hughes County wildcat, was dry and abandoned at 680 feet, total depth.

B. L. Maddox No. 1 Penn Mutual, C S half NE NW Section 5-16-24, wildcat in Adair County, had a hole full of water and was abandoned at 522 feet, total depth.

Another Adair County wildcat, B. F. Lemons No. 1 Johnson, NE Section 31-16-25, had first Wilcox sand at 442-88 feet, sand at 490-525 feet and at 527-610 feet, total depth, the hole filled with water and it was abandoned.

Ed Kelly No. 1 Hill, SW SW SE Section 1-21-5, wildcat in Pawnee County, was a rig.

Pottawatomie County

J. F. Smith No. 4 Hines, SW SW NW Section 22-7-4, St. Louis field, Pottawatomie County, had Calvin pay at 3,219-26 feet, total depth 3,229 feet, and swabbed 272 bbls. of 42-gravity oil, with a small amount of water, in 24 hours.

Phillips Petroleum Co. No. 8 Fried, NE cor. Section 23-7-4, flowed 90 bbls. of oil in 24 hours through choke and after a shot, from Calvin pay at 3,118-26 feet, total depth 3,128 feet.

Hall & Briscoe No. 1 Smith, SE NE NE Section 32-7-5, found dolomite pay at 4,025-47 feet, total depth, was acidized and pumped 306 bbls. of oil and 90 bbls. of water in 24 hours.

Failures of the week in the St. Louis field were: Elbar Oil Corp. No. 1 Douglas, NE SE NW Section 10-7-4, dry and abandoned at 3,558 feet; F. C. Hall, Inc., No. 1-B Clour, SE NW SE Section 11-7-4, total depth 3,266 feet; Kirshner & Jordan No. 1-A Risenhoover, NW NW NE Section 14-7-4, total depth 3,158 feet; Magnolia Petroleum Co. No. 2 Davis, NE NW NE Section 24-7-4, total depth 4,235 feet; Alma Oil Co. No. 1-A Bourbonais, SW SW NE Section 28-7-5, total depth 4,280 feet.

Blackwell Oil & Gas Co. No. 4 Cherry, NE cor. Section 25-7-4, an old well, was plugged back from 4,384 feet to 4,130 feet, ripped casing, acidized, pumped 20 bbls. of 39.2-gravity oil daily, recompleted.

E. W. Jones No. 1 McWaters, SE NE NE Section 35-7-4, an old well, was plugged back from 4,162 feet to 4,157 feet, pumped 61 bbls. of 40-gravity oil and 30 bbls. of water, recompleted.

New work in Pottawatomie County: Denver Producing & Refining Co. No. 1 Troutman, SW NE NW Section 1-6-4, building rig; Magnolia Petroleum Co. No. 2 Jones C, SE SW NE Section 18-7-4, cellar and pits; Arkhoma Oil Corp. No. 2 Beam, SE SW NW Section 36-7-4, location; Harold Berkey No. 2 well, NW NE NE Section 36-7-4, rigging up rotary; Magnolia Petroleum Co. No. 5 Nicklos, NW NE NW Section 31-7-5, building rig; Alma Oil Co. No. 1 Canfield, NW NE SW Section 33-7-5, cellar and pits; Big Chief Drilling Co. No. 1 Canfield, NW SW SW Section 33-7-5, building rig.

Seminole County

W. A. Villines No. 1 Millsap, SE SW SW Section 23-7-5, Seminole County, had Earlsboro pay at 2,927-39 feet, total depth, was shot and flowed 90 bbls. of oil through tubing in 24 hours, with 3,000,000 feet of gas. Gravity of the oil was 39 degrees.

J. F. Smith No. 1 Fleet, SE NW NW Section 26-7-5, found Thurman sand at 2,981-91 feet, total depth 3,502 feet, plugged back to 3,040 feet, ripped casing, shot and pumped 16 bbls. of oil and 2 bbls. of water daily.

Earl Evans and others No. 2 Swan, NW NW SE Section 33-7-6, swabbed and flowed 296 bbls. of oil initially from Calvin pay at 2,904-23 feet, total depth. It later flowed 105 bbls. of oil in 24 hours.

Vierson Oil & Gas Co. No. 5 Factor, SW SW NW Section 25-5-7, Allen district, found Gilcrease sand at 2,390-2,407 feet, total depth, and pumped 55 bbls. of oil in 24 hours.

Magnolia Petroleum Co. No. 4 Fleet & Osborn, NE SE NE Section 26-5-7, was bottomed at 3,180 feet, plugged back to 2,360 feet and flowed 190 bbls. of oil in 24 hours.

The following new operations in Seminole County were reported: Magnolia Petroleum Co. No. 5 Osborn, NE NE SE Section 26-5-7, location in Allen area; W. B. Winemiller No. 1 Tiger, NW SE SE Section 12-6-5, location; Atlantic Refining Co. No. 1 Harris, NW cor. Section 21-7-6, location; Stanolind Oil & Gas Co. No. 1 Cosar, SE cor. Section 26-7-5, Hazel pool, rig; Rogers & Rogers No. 1 Robinson, SW SW SE Section 36-8-7, spudded.

Okfuskee County

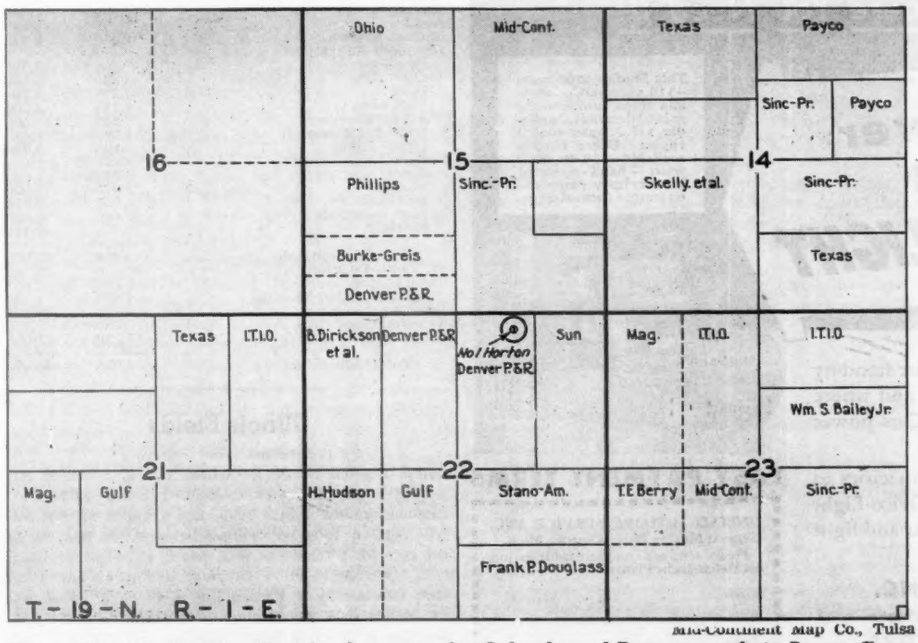
Commercial Drilling Co. No. 1 Hibler, NW NE SE Section 19-11-10, Okfuskee County, had Senora sand at 1,532 feet and was dry and abandoned at 1,605 feet, total depth.

Mid-Continent Petroleum Corp. No. 4 Ireland, NE NW SW Section 10-13-10, had spudded. Berry Brothers No. 1 Public Service, SW cor. Section 22-10-11, was a location.

Pontotoc County

Lloyd and others No. 1 Lloyd, NW NW SE Section 6-3n-7, was completed for an estimated 250,000 feet of gas daily at 453 feet, total depth.

Lake Oil Co. No. 5 Gray B, SE SE SW Section 25-



Mid-Continent Map Co., Tulsa

The wildcat in Section 22-19-1e, between the Orlando and Ramsey pools in Payne County, was making Schlumberger test at 5,028 feet in Wilcox sand

5-4, was given two-time acid treatment and pumped 40 bbls. of oil net in 24 hours, from Viola lime at 2,443-2,620 feet, total depth.

Clark & Cowden No. 2-A Starrett, NW NE NE Section 21-5-5, Bebee area, Pontotoc County, had Viola lime pay at 2,473-2,529 feet, total depth 2,532 feet. plugged back to 2,529 feet and acidized. It pumped 196 bbls. of 37.5-gravity oil daily.

Sinclair Prairie Oil Co. No. 1 Thompson, C E half SW NW Section 1-1n-7, Jesse pool, had Hunton lime at 3,971-4,283 feet, total depth, was acidized two times, swabbed 100 bbls. of oil net in 16 hours, and later pumped 20 bbls. of 37.3-gravity oil daily.

Patsy Oil Co. No. 4 Meharg & West, NW SW SE Section 21-2n-6, West Fitts area, had Hunton lime at 4,450 feet, total depth 4,479 feet, and was dry and abandoned.

Owen Hembree No. 1 Brown, SW SW NE Section 27-5-6, an old well, was dry and abandoned after deepening from 1,750 feet to 1,842 feet, and shooting.

Stanolind Oil & Gas Co. No. 3-A Norris, NE NE SE Section 26-2-6, Fitts field, an old well, was plugged back from 4,429 feet to 4,368 feet, and recompleted for 94 bbls. of oil daily. Burke-Greis Oil Co. No. 3 Chambers, NE NW NW Section 36-2-6, an old well, was dry and abandoned after plugging back from 4,391 feet to 3,866 feet.

Ace Oil Co. No. 1 Patterson, SW SE NE Section 27-5-8, Allen area, was shut down for repairs at 1,610 feet. Delaney and others No. 1-A Butler, NW NE NE Section 30-5-8, was drilling below 2,700 feet.

Oklahoma County

Indian Territory Illuminating Oil Co. No. 4 Bodine, NE NW NW Section 30-11-2w, Oklahoma City pool, was drilling below 3,040 feet.

Cromwell-Franklin and Indian Territory Illuminating Oil Co. No. 35 Trosper Park, SE SE SW Section 12-11-3w, was coring below 2,561 feet.

Ohio Oil Co. No. 3 Keeler, Account No. 1, NE NE NW Section 5-13-3w, Edmond pool, was a location.

Caddo County

Magnolia Petroleum Co. No. 8 Pau-Kune, NE cor. Section 10-5-9w, Cement field, Caddo County, had initial production of 1,935 bbls. of 36-gravity oil in 22 hours, flowing through 2-inch tubing, accompanied by 500,000 feet of gas. It had Rowe sand, Hoxbar producing zone, at 3,329-49 feet, total depth.

Palmer Oil Corp. No. 1 Ulery, SE NE NE Section 34-6-10w, had Hoxbar pay zone at 3,385-3,435 feet, total depth, and flowed 111 bbls. of oil and 2,740,000 feet of gas daily.

Ray Stephens, Inc., No. 4 Griffin, NW NW SE Section 27-6-10w, was completed for 25,000,000 feet of gas daily at 4,780 feet, total depth, producing from Hoxbar zone after shots between 4,660-4,707 feet.

Olson Oil Co. No. 1-A Royce, NW NW NE Section 12-5-9w, was completed for 3,500,000 feet of gas at 6,997 feet, total depth. Pontotoc pay zone was at 6,311-6,997 feet and production was through perforations. Shut-in pressure was 2,800 pounds. This well blew in and flowed wild for a time, gas escaped into other wells in the vicinity, necessitating a difficult cementing job.

Willard L. Miller No. 2-A Garner, SW NW SW Section 26-6-10w, an old well, was plugged back from 4,462 feet to 4,050 feet, perforated casing and pumped 115 bbls. of oil and 40 per cent water in 24 hours.

Magnolia Petroleum Co. No. 8 Lackey, SE NW NW Section 11-5-9w, an old well, was plugging back from 4,020 feet to test shallow sands. Same company's No. 9 Surbeck, SW SE SE Section 3-5-9w, was building derrick.

Okmulgee County

Bryan Petroleum Co. No. 3 Phillips, NE cor. Section 8-15-11, Okmulgee County, had Bartlesville sand at 1,964-80 feet, total depth, and pumped 20 bbls. of oil daily with 1,500,000 feet of gas.

B. H. Young No. 1 Anderson, NE NE NW Section 8-15-14, had Booch sand at 1,702-06 feet, total depth, and produced 1,000,000 feet of gas.

Ernest Chamberlin No. 1 Musgrove, NW NW SW Section 19-13-11, was dry and abandoned at 3,404 feet. total depth.

Creek County

Strozier Drilling Co. No. 1-A Ricks, SE SE NW Section 12-16-11, Creek County, had Skinner sand at 1,700-39 feet, total depth, and pumped 50 bbls. of 34-gravity oil daily, completed.

Wagoner-Mayes Counties

Ralph Dillard and others No. 1 Sheppard, SW SW SE Section 17-17-15, Wagoner County, had Arbuckle lime at 1,850 feet and was dry and abandoned at 1,869 feet, total depth.

H. Dundee No. 1 Warner, C NW NW Section 10-19-18, Mayes County, had a hole full of water and was abandoned at 615 feet, total depth.

Marshall County

M. C. McGlothlin No. 4 Haggard, Section 25-7s-5e, Enos pool, Marshall County, was completed as an 8-bbl. pumper from Trinity pay at 505 feet, total depth.

Carter County

Sun Oil Co. No. 19 Mullin A, SW SW NE Section 4-4s-3w, Healdton field, Carter County, had Deese pay at 965-1,015 feet, total depth 1,219 feet, plugged back to 999 feet and completed as a 2-bbl. pumper.

Magnolia Petroleum Co. No. 1-A Hefner-Mills, C SW NE Section 27-2s-3w, was location for a deep test in the Fox pool.

Southwestern Oklahoma

In Stephens County, Louis Sikes No. 1-A Mulkey, C NE Section 16-1s-8w, Duncan pool, an old well deepened from 2,047 feet to 2,128 feet, was recompleted as a 28-bbl. pumper.

In Jefferson County, G. W. Swartz No. 2 Pennington, NW NW SE Section 17-7s-5w, Oscar-Seay area, was dry and abandoned at 818 feet.

In Comanche County, Wichita Oil, Inc., No. 7 Noble, Section 28-2n-10w, Lawton pool, had sand at 442-58 feet, total depth, and pumped 7 bbls. of 28-gravity oil daily, producing from Pontotoc zone. Joe S. Truett No. 10 fee, SW SE SE Section 26-2n-11w, was drilling at 252 feet.

Additional New Work

In Osage County, Tide Water Associated Oil Co. No. 5 Osage, NW SW SW Section 21-24-9, was a location. In Tulsa County, Central Commercial Oil Co No. 2-A Bittle, SW SW NE Section 13-16-12, was a location. In Grady County, Charles B. Cooke No. 1 Bryan, SW NE SE Section 8-3n-5w, Knox pool, was building rig, and T. H. McCasland No. 2-A Horton, SW NW NW Section 8-3n-5w, was a location. In Jackson County, Fish Brothers Drilling Co. No. 1 O'Neal, SW NW SW Section 5-1s-19w, Tipton pool, was a derrick. In Beckham County, West Oak Gas Co. No. 1 Thompson, C SE SE Section 3-9-25w, was building derrick.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending August 27, and for the preceding week, was as follows:

	Barrels	
	Aug. 27	Aug. 20
Allen	5,950	5,800
Billings	5,100	4,000
Burbank	7,575	6,925
South Burbank	11,750	9,650
Balance Osage	18,525	17,250
Blackwell district	4,750	4,450
Bristow-Slick	6,850	6,725
Chandler	1,775	1,825
Crescent	4,050	3,875
Cromwell	3,575	3,025
Cushing-Shamrock	9,825	9,675
Duncan district	4,275	4,125
Edmond	5,050	5,250
Fish	3,275	2,925
Fitts	40,725	39,250
Jesse	2,650	2,675
Graham	3,925	3,775
Gray	750	975
Healdton	8,125	7,925
Hewitt	3,475	3,650
Keokuk	4,275	4,125
Konawa	1,050	1,400
Lucien	9,375	7,725
Moore	4,580	4,800
Oklahoma City	96,775	123,250
Olympic	6,225	4,975
Ramsey	1,650	1,600
Sasakwa	1,350	1,450
Sholem-Alechem	2,350	2,375
Seminole district:		
Bowlegs	7,975	7,325
Carr City	2,825	3,100
Dora	4,275	4,100
Earlsboro	4,775	4,200
South Earlsboro	375	500
East Earlsboro	4,525	4,175
Little River	6,125	6,750
East Little River	975	825
Maud	675	600
Mission	1,375	1,350
Seminole	6,850	6,150
East Seminole	1,650	1,625
Searight	2,650	2,100
Total Seminole	45,050	42,800
St. Louis-Pearson	21,750	20,125
Tatums	3,100	2,975
Tonkawa-Garber-Thomas	4,450	4,100
Wewoka	2,125	2,325
Yale-Jennings	3,750	3,675
Other pools	77,220	71,950
Total Oklahoma	437,050	443,400

On the Job . . . Where You Need It!

Electric Power and Light Portable DELCO-LIGHT

This Model—1500 watts—110 volts—DC...starts and stops automatically as load demands. 2 cylinder, 3 H. P. water-cooled engine. Other models available—150 to 6000 watts — hand-operated batteryless, automatic or remote control types.

● Ideal in oil fields for portable, stationary or stand-by electric needs. Turn on Delco-Light when and where you need it. Easy to set up, move, operate. Cuts power costs. Operates on natural gas or gasoline.

Available in a wide range of sizes and capacities to suit your needs. AC or DC. Ask your local Delco-Light dealer for full details on these efficient power and light plants. No obligation.

UNITED MOTORS SERVICE INC.
General Motors Bldg. Detroit, Michigan
PRODUCT OF GENERAL MOTORS

EASY PAYMENT TERMS

UNITED MOTORS SERVICE INC.
General Motors Bldg., Detroit, Mich.
Please send me complete information on Delco-Light Plants. OG-9-1

Name .....
Address .....
Town .....
State .....

Illinois Fields

(Continued from Page 58)

pump; Lincoln No. 1 McClellan, Lot 2, Block 8, NE NW NW Section 18-1n-1e, drilling below 1,080 feet; Zimmerman No. 1 Max Prill, Lot 5, Block 27, NE SW NW Section 18-1n-1e, drilling below 1,020 feet; Dixie Oil Co. No. 1 Gerbig, Lot 2, Block 4, Jones Addition. NW NW NW Section 19-1n-1e, drilling below 1,350 feet; Ostrom No. 1 Petrea, Lot 9, Block 8, Jones Addition, SW NW SW Section 19-1n-1e; Sgro No. 1 Freant, Lot 5, Block 7, Jones Addition, SW NW NW Section 19-1n-1e, drilling below 1,000 feet.

In Jefferson County, Carter Oil Co. No. 12 F. Ray,

NE SW SW Section 3-1s-2e, rig; Shell Petroleum Corp. No. 1 Francis, NE NW SW Section 12-1n-1w, location, offsetting a gas well.

In Clay County, Carter Oil Co. No. 1 L. A. Skelton, C W half NE NW Section 21-2n-8e, location.

Illinois Wildcats

Clinton County: Watkins & Wright No. 1 Wise, 75 feet from north and 600 feet from west lines SE quarter Section 24-1n-3w, shut down at 300 feet with hole full of water, waiting for pump; Farrelly and others No. 1 Berginan, NW SW NW Section 30-1n-3w, rigging up machine; Schlafly and others No. 1 Brinkman, NE NE NW Section 31-1n-2w, St. Louis top at 1,540 feet, drilling at 1,668 feet; E. C. Phelps No. 1 H. Dodillet, SE NW SW Section 25-1n-1w, Cypress top at 1,367 feet, total depth 1,425 feet, hole full of water, fishing; Traham and others No. 1 Nicolay, SW NW NE Section 14-2n-1w, Cypress top 1,395 feet dry, Weiler 1,415 feet, Bethel 1,517-34 feet dry, drilling at 1,794 feet; Sappington and others No. 1 Hilgeman, SE NE NW Section 22-3n-3w, drilling at 1,025 feet; M. & K. Oil Co. No. 1 Keaner, NE NW NE Section 10-3n-2w, drilling at 475 feet; Harris and others No. 1 Hage, C S half SE SE Section 18-1s-5w, machine on ground.

Marion County: Iroquois Oil Co. No. 1 Phillips, NE NE NW Section 1-1n-1e, spudded; Gray & Bialock No. 1 Doctor Welch, in E half NE NW Section 2-1n-1e, derrick; Anna Bell No. 1 Schlageter, NE SE SW Section 5-1n-1e, drilling at 588 feet; Thompson Drilling Co. No. 1 Wright, C NE SE NE Section 8-1n-1e, total depth 1,282 feet, moving in rotary; Gardenshire No. 1 Wesner, SW NE SE Section 12-1n-1e, drilling at 1,125 feet; R. E. Dalton No. 1 Ira Dalton, NW SE NE Section 19-1n-3e, Cypress top 2,253 feet, shut down at 2,300 feet; R. E. Dalton No. 1 Clifton, NE SW SW Section 15-1n-4e, Bethel top 2,650 feet, shut down at 2,682 feet with very small showing of oil; Boyce and others No. 1 Foster, C NW NW SE Section 10-2n-1e, total depth 1,340 feet, will underream 8-inch; Oil Royalties No. 1 Suggs-Meeker, C W half NW NW Section 11-2n-1e, drilling in hole full of water at 1,109 feet; Jay Copps No. 1 Wesner, SW SW NW Section 24-2n-1e, rigging up machine; Carpenter & Goldberg No. 1 Holsapple, NE NE SE Section 25-2n-1e, drilling at 1,900 feet; Shobe Engineering Corp. No. 1 Morey, in SE SE Section 4-4n-1e, spudded; Wanner and others No. 1, Young school lot, NE NW SE Section 20-2n-2e, derrick on 1-acre tract; Wanner and others No. 1, Young church lot, SW cor. SW SW NW Section 21-2n-2e, 1-acre tract, location; Sheppard and others No. 1 Greer, SW NE SW Section 30-2n-2e, Bethel at 1,912 feet, bleeding saturated streaks to 1,918 feet, waiting for orders; Pyramid Petroleum Co. No. 1 Roddy, SE SE SW Section 20-2n-3e, set 6-inch casing at 2,207 feet and shut down; Coyer No. 1 Mulvaney, SE NE SE Section 6-2n-4e, drilling at 925 feet.

Clay County: Gordon and others No. 1 Fitch, C W half SW NW Section 11-1n-8e, location; Duncan Oil Co. No. 1 Ullom, C W half SW NW Section 22-2n-8e, drilling at 665 feet.

St. Clair County: Neil No. 1 Pfeffer, 900 feet from south and 330 feet from east lines of NE quarter Section 20-2n-6w, shut down at 655 feet.

Richland County: Lake & Allen No. 1 Hazel, C NE NW Section 22-2n-9e, derrick; Pure Oil Co. No. 1 Wakefield, W half NW NE Section 26-4n-9e, location.

Lawrence County: Herbst and others No. 1 Houghton, C SE SE Section 12-4n-11w, moving in material; Kesi and others No. 1 Warner, NE NE NE Section 23-4n-11w, shut down at 1,711 feet.

Madison County: Penn Illinois Oil Co. No. 1 Poor, NW NE SW Section 12-4n-9w, location; Spivey Drilling Co. No. 1 Storms, SE SW NE Section 15-6n-8w. Ste. Genevieve limestone at 508 feet, Burlington at 996 feet, Sweetening Creek at 1,265 feet, hole full of water at 1,587 feet, drilling at 1,620 feet.

Bond County: Huppard and others No. 1 Dresser, SW NE NW Section 21-6n-4w, shut down at 1,525 feet in limestone; Elmor and others No. 1 Dilman, SW SE SW Section 13-6n-2w, drilling at 400 feet.

Fayette County: Rosenthal No. 1 Washburn, NE SE NW Section 30-6n-3e, rigging up rotary; Hayes, Miller and others No. 1 Thull, SE SW SE Section 14-8n-1e, drilling at 840 feet; Bell Oils No. 1 R. C. Sloan, 175 feet from south and 15 feet from east lines of SW quarter Section 4-8n-3e, spudded; Whisnant and others No. 1 Zanders, SW SE NW Section 36-9n-3e, total depth 1,672 feet, plugged back to 1,578 feet and drilled out to old total depth, 1,672 feet, Bethel sand at 1,655-70 feet.

Jasper County: Kingwood Oil Co. and Bur-Kan Oil Co. No. 1 Harrison, C W half SW SW Section 2-7n-10e, derrick.

McDonough County: O. H. Hammer No. 1 Jones, C NW Section 22-7n-3w, of fourth p.m., drilling at 460 feet.

Macoupin County: Spence Brothers No. 1 fee, SE SW SW Section 13-8n-9w, derrick; H. W. Livingston No. 1 Lippold, near C E half NE SW Section 21-9n-8w, drilling at 500 feet.

Montgomery County: Baker & Martin No. 1 Satterlee, near NE cor. SW SW SW Section 3-8n-5w, rig burned, total depth 710 feet, shut down for repairs.

Cumberland County: National Consumers No. 1 Harrison-Ward, NE SE NE Section 17-9n-9e, shut down at 1,508 feet.

Shelby County: Jolly & Ogg No. 1 Jenkins, SE cor. Section 26-10n-4e, shut down for casing at 1,000 feet; Lee Lewis and others No. 1 Hopkins, SE cor. Section 32-10n-4e, spudded and shut down.

Coles County: Kingwood Oil Co. No. 1 Tomberlin, SW SE SE Section 21-11n-10e, Devonian lime 2,215 feet, drilling at 2,852 feet.

Edgar County: A. M. Myers No. 1-A Brinkeroff, 40 feet west of C SE SE Section 26-13n-13w, shut down at 860 feet for repairs; Bearcey and others No. 1 Blair, near C NW NE NW Section 24-14n-14w, drilling in limestone at 250 feet; Mabee Consolidated Corp. and others No. 1 Oakland Bank, NW NW NE Section 31-14n-14w, total depth 1,130 feet, will pull casing and deepen; E. Lapsley No. 1 Roll, SW SW NE Section 17-14n-13w, driving 10-inch pipe to 80 feet, machine.

Morgan County: Waverly Oil Co. No. 1 Hubbs, near C E half E half E half Section 33-14n-8w, Devonian at 1,357 feet, Maquoketa at 1,357 feet, reaming; Alexander Oil Co. No. 1 Gray, E half NW NE Section 36-15n-9w, location; Ed Duval No. 1-D Bowen, NW NW SE Section 30-17n-12w, shut down at 530 feet.

Champaign County: Sidney Oil & Gas Co. No. 1 Wendling, 1,570 feet from south and 450 feet from east lines SE quarter Section 10-17n-10e, location; Nedra Oil & Gas Co. No. 1 Block, SE SE NE Section 33-18n-10e, small showing of oil at 275-80 feet in sand, pulling 5-inch casing, hole caving.

Piatt County: Max Pray No. 1 Baker, SW NE NE Section 17-18n-6e, shut down at 2,005 feet, in shale.

Menard County: Scroggins No. 1 fee, C SW SW Section 24-19n-5w, top of sand at 1,520 feet; lime at 1,550-58 feet, with showing of oil, total depth 1,570 feet, plugged back to 1,555 feet and running 5½-inch casing.

Dewitt County: R. H. Smith and others No. 1 Dean Hill, SW NW NW Section 20-21n-1e, shut down for casing at 130 feet.

Southern Wildcats

Washington County: Morris No. 1 Marquard, SE NW SW Section 33-1s-5w, drilling at 873 feet, hole caving; Salvage Oil & Fuel Co. No. 1 Reinkenmeyer, SE SE NW Section 11-1s-2w, shut down at 1,030 feet; E. C. Lamb No. 1 Paul, 800 feet from south and 1,020 feet from east lines NE quarter Section 29-3s-5w, Ste. Genevieve at 1,072 feet, drilling at 1,139 feet. Bitterman No. 1 Bonk, C SE NE SW Section 16-3s-2w, material on ground; Thompson Drilling Co. No. 1 Musial, SE SW NW Section 19-3s-1w, Bethel sand at 1,361 feet, total depth 1,364 feet, will plug back to Weiler sand at 1,226½-87 feet.

Wayne County: Iroquois Oil Co. No. 1 Walker, C NW NW NW Section 16-3s-9e, McClosky lime at 3,420 feet, showing of oil at 3,420-23 feet, light pay at 3,428-32 feet, total depth 3,438 feet, waiting for cement to set at 3,421 feet.

Jefferson County: Sam Jennings and others No. 1 Patton, NW NE SW Section 1-1s-1e, drilling at 250 feet.

Edwards County: Leach Brothers No. 1 Lee, SW NE SE Section 11-1s-10e, Cypress at 2,970 feet, drilled soft sand at 3,345-53 feet and bailed one-half barrel of oil, total depth 3,370 feet, acidized with 5,000 gallons but formation would not take the acid, will deepen.

Randolph County: Cain and others No. 1 Smiley, SE SE NE Section 31-4s-5w, shut down for repairs at 550 feet.

. Franklin County: Adams Oil & Gas Co. No. 1 Old Ben Coal Co., SW SW NE Section 19-5s-2e, drilling at 1,960 feet.

Jefferson County: Sam Jennings and others No. 1 Patton, NW NE SW Section 1-1s-1e, drilling at 250 feet; Benedum-Trees, Inc., No. 1 Jeff Oil & Gas Co., C NW NE Section 16-4s-2e, waiting for casing at 316 feet; Price & Parker No. 2-A Hamilton (40 feet west

EQUIPPED TO HANDLE
BIG OVERHAULING
AND REPAIR JOBS

We Service Machinery . . . .

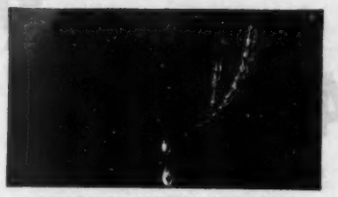
Rebore Engines and Compressor Cylinders for Gasoline and Gas Lift Plants.

Rewind and Rebuild Electric Motors and Generators on Electric Rigs

PREST
MACHINE WORKS CO.

Gives You The BEST

420 E. Grand Ph. 3-3478
OKLAHOMA CITY
Established 1909



THAT LEAK which no AMOUNT of TIGHTENING CAN CURE—easily prevented or stopped with SMOOTH-ON No. 1

"Headache Repair Jobs":—
Leaks at Screw Threads
Leaks at Gaskets
Leaks at Flanged Joints
Leaks at Ground Joints

THESE can all be avoided by using Smooth-On No. 1 when making the joints. Smooth-On No. 1 flows into all voids as the joint is tightened, and is a permanent barrier against fluid loss or pressure drop.

If your problem is how to stop these leaks without disassembling the joint, the Smooth-On Handbook will show you how to do it. This book brings to you the experience of many engineers in making such repairs. Thirty-five years of actual repair knowledge is put into this compact book that is sent free to you.

Make a trial on your most troublesome joints and you will quickly see the wisdom of standardizing on this filler for *all* joints.

Get Smooth-On No. 1 in 1 or 5-lb. can or 25 or 100-lb. keg from your supply house or if necessary direct from us.

Mail coupon for Booklet!

SMOOTH-ON MFG. CO.,
Dept. 66, 570 Communipaw Ave., Jersey City, N. J.
Please send SMOOTH-ON HANDBOOK.

Name _____
Address _____
_____
9-38 _____

Do it with **SMOOTH-ON**

of No. 2), SW SW NW Section 20-4s-3e, drilling at 1,867 feet; J. Garfield Buel No. 1 Forrest, SW SE NE Section 4-5s-1e, set 10-inch casing at 42 feet.

Randolph County: Schlosberg and others No. 1 Hayer, SE NW SW Section 4-5s-6w, shut down at 350 feet.

Jackson County: T. T. Eason No. 1 Bowlin, C SE NE Section 12-7s-2w, location for a McClosky lime test; Eason Oil Co. No. 1 Bowlin, SE SE NE Section 12-7s-2w, rigging up rotary.

Franklin County: Amerada Petroleum Corp. No. 1 Ziegler, SW NE NW Section 14-7s-1e, Fredonia lime at 2,755 feet, drilling at 2,795 feet.

Saline County: Carpenter and others No. 1 Sloan, SE SE SW Section 32-7s-6e, derrick; Siegel and others No. 1 Choisser, NE NW NW Section 5-8s-7e, shut down at 100 feet for repairs.

Gallatin County: Bailey & Lucas No. 1 Dr. Harry Logan, SE NE NE Section 21-8s-8e, total depth 1,316 feet, running 10-inch casing.

White County: Arab Petroleum Corp. No. 1 Frank Doerner, Sr., SE SE SE Section 12-7s-8e, Ste. Genevieve limestone at 2,983 feet, Rosecalire at 2,980 feet, drilling at 2,995 feet.

Johnson County: Elzie No. 1 Bonner, C SW NE Section 30-11s-3e, 3,000-foot test, shut down at 90 feet.

Pope County: C. C. Whitlock and others No. 1 Anthis, NW NW NE Section 12-11s-3e, Fredonia at 1,630 feet, total depth 1,760 feet in limestone, fishing.

Massac County: Kahle and others No. 1 Harvick, SW cor. Section 23-14s-3e, Devonian top at 1,800 feet, Silurian top at 2,495 feet, Trenton top at 2,849 feet, shut down at 3,000 feet.

OHIO

FINDLAY, Ohio, Aug. 29.—In Noble County, the Crookedtree test made the best showing of the week. In Seneca Township, Section 14, Wilbur Keith and others topped the Keener sand at 1,267 feet for a showing of 406,000 feet of gas and an estimated 25 bbls. of oil, natural flow. Only 9 feet of the sand was drilled and the hole may be deepened before shooting.

In Athens County, Lodi Township, Gross & McCune No. 1 R. O. Burson, Section 19, had a small showing of oil in the Cow Run sand at 391-96 feet. The shot failed to make any increase and the hole was abandoned.

In Knox County, Union Township, Ohio Fuel Gas Co. No. 1 H. A. Lower, Section 23, was good for 900,000 feet of gas from the Clinton at 2,947 feet. In Union Township, Ewing and others No. 1 C. V. Banbury, Section 4, made 250,000 feet of gas and 25 bbls. of oil the first day after a shot in Clinton sand, total depth 2,800 feet.

In Licking County, Franklin Township, E. J. Edmunds No. 1 J. B. Guthridge, Section 23, was dry in the Berea sand at 819 feet. In Hopewell Township, Hazlett and others No. 2 J. D. Moorehead, Section 18, produced 65 bbls. of oil the first 24 hours after a shot in Clinton sand at 3,107-47 feet. In Mary Ann Township, Charles Vaughn No. 1 Ira N. Porter, Lot 2, fourth quarter, found the Berea at 594-608 feet and is making 6 bbls. of oil per day.

In Lorain County, Carlisle Township, McMillen No. 1 William Youngeberg, Section 18, is a gas well gauging 700,000 feet from the Clinton sand at 2,671 feet.

In Medina County, Litchfield Township, William Dempsey No. 1 A. J. McCrea, Lot 8, is a Clinton gas well with a flow of 1,000,000 feet at a depth of 2,581-90 feet. In Liverpool Township, Paul Baldwin No. 1 C. F. Wolf, Section 13, reached the Berea at 164-209 feet and is making 3 bbls. of oil a day.

In Meigs County, Salisburg Township, Frank Fugate and others No. 1 Ira Norris, Section 33, was drilled through the Maxon sand to a depth of 901 feet and abandoned.

In Morgan County, Homer Township, D. T. Orndoff No. 1 Sarah V. Dale, Section 2, is a small gas well in the second Berea at 1,419 feet.

In Noble County, Elk Township, Turkey Run Oil & Gas Co. No. 6 H. F. Fleeman, Section 13, is a small gas well in the Salt sand at a depth of 1,111 feet.

In Summit County, Green Township, Burtner, Morgan & Stevens No. 1 Steve Hoffman, Section 32, is a gas well gauging 2,500,000 feet of gas from the Clinton sand at 4,098-4,118 feet.

In Vinton County, Richland Township, Kelch Brothers No. 1 E. C. Wortman, Section 1, was dry and abandoned at 780 feet.

In Washington County, Grandview Township, Hix Oil Co. No. 2 Mary C. Fisher, Section 28, was drilled to 1,673 feet and made 205,000 feet of gas from Maxon sand. In Liberty Township, Baker & Dailey No. 3 Albert Pryor, Section 22, made 170,000 feet of gas from Maxon sand at 1,270 feet.

Lima Field

In the Tiffin area, Seneca County, one test reached the Green sand horizon. The Sun Oil Co. No. 1 Tiffin Business College, Clinton Township, Section 7, had a show of oil at 2,063-75 feet. Water was found at 2,086 feet. The water will be plugged off and the oil showing will be shot.

Three new tests have been staked. In Seneca County, Clinton Township, Section 8, A. J. West has a rig up on the Mary I. Michaels. The same operator is moving a rig for a test on the A. M. Clouse farm in Section 7. In Pleasants Township, Jones & Keiner have a rig up on the S. B. Sours tract.

EASTERN KENTUCKY

ASHLAND, Ky., Aug. 29.—Field operations continued along a quiet and uneventful trail in Eastern Kentucky this week with only two small completions. Field men report activity exceptionally light or at a standstill in their districts.

South Penn Oil Co. completed No. 24 Abbie J. McCoy on South Fork in the South Fork district of Powell County, a 2-bbl. well.

C. M. Nicholas No. 1 R. B. Fannin at Isonville had a good showing in the Weir sand, but other data were lacking pending the shot.

In Powell County, Wireman Brothers are down 400 feet in No. 5 Albert Stewart in the South Fork district.

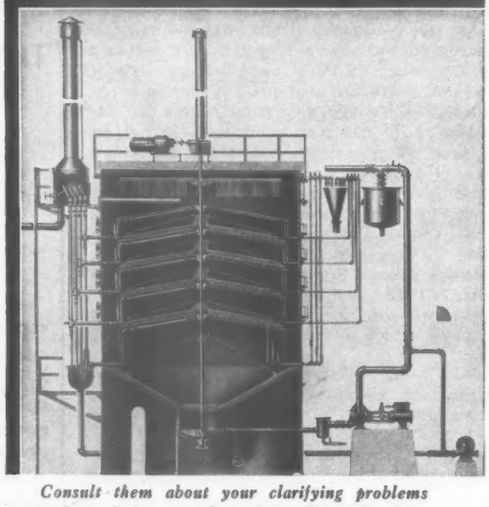
In Magoffin County, Dona Wheeler was drilling at 600 feet in No. 1 Cleffa Cochran. Ralph Stafford and

(Continued on Page 96)

AMAZING RESULTS with the

★ SEIP CLARIFIER

★ CLEARER LIQUID
★ SHORTER SETTLING TIME
★ MAXIMUM RESIDUE CONCENTRATION
★ GREATER CAPACITY



The Seip Clarifier is modern—based on the principle of Upward Filtration, which is at least 14 times as effective as downward filtering.

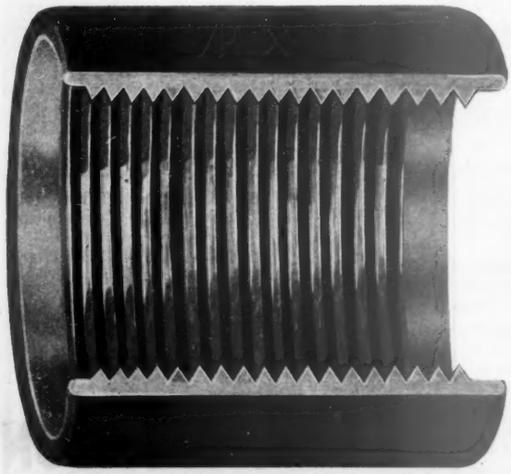
In old-style settlers, liquid enters through a center downtake, but the Seip intake is located around the tank's periphery, thus providing ten times the intake capacity. This slows down the flow of liquid considerably and minimizes agitation to liquid.

The Seip is made in any desired size. Although furnished complete with leak-proof, welded steel tank, the clarifier mechanism can in many instances be installed in present settling tanks, and will greatly improve capacity and efficiency.

Made by the Graver Organization, who for three-quarters of a century have been leaders in the manufacture of leak-proof metal tanks for storing and transporting oil, breather roofs, refinery installations, field equipment, service station equipment, spherical tanks, water treating equipment, etc.

Consult them about your clarifying problems and send for complete data about the Seip.

GRAVER TANK & MFG. CO., INC.
75 Years of Dependable Service
New York, N.Y. East Chicago, Ind. Chicago, Ill. Catasauqua, Pa.



A.P.I. "X-L" *Line Pipe*
RECESSED COUPLINGS

Avoid weak joints! Diminish waste and increase profits! Our special patented process of recessing couplings assures perfect alignment, tighter joints and protection of vanishing—which, in turn, mean longer life to the line.

Warehoused by Henry H. Paris, 1121 Rothwell St., Houston, Texas

WHEELING MACHINE PRODUCTS COMPANY
WHEELING, W.VA.

West, Central and Panhandle Texas

By
D. H. STORMONT

Slaughter Twice Extended; New Pays in Central Area

FORT WORTH, Tex., Aug. 29.—Developments in West Texas were featured by major extensions to the Slaughter pool in Hockley County and the Moss pool in Ector County, while Central Texas was highlighted by the discovery of new shallow producing areas, one each in Young and Shackelford counties.

The Slaughter pool in Hockley County, which has for several weeks been marking time pending the outcome of extension tests, was given two new producers last week, one a half-mile east extension to the northern part of the pool, and the other about a 3-mile northeast extension, which adds many acres to the pool's proven area. Gulf Oil Corp. No. 1 Mallett, League 34, Labor 25, about 3 miles northeast of the main portion of the field, is drilling deeper into the pay section as 3,000 feet of oil stands in the hole. This test has for many weeks been a closely watched outpost and now assures the largest extension the Slaughter pool has had since its discovery in April of 1937.

The other producer, Sid Richardson No. 2 Slaughter, League 39, Labor 58, Maverick Survey, was flowing by heads, while operators were preparing to swab the well into a steady flow. Pay was topped at 4,950 feet, considerably higher than in any other well in the pool, and indications are that it will make the largest producer yet completed in the Slaughter area. There are several new locations staked in the field, one of which is a half-mile outpost to the east on the south end of production. Ten oil wells have been completed in the field, including the two new ones over the past week. This field will probably receive little immediate drilling as there is no pipe line outlet and operators are trucking crude to a tank farm about 30 miles south in the Bennett pool, where it is sent to Hobbs, N. Mex., for transportation to the Gulf Coast.

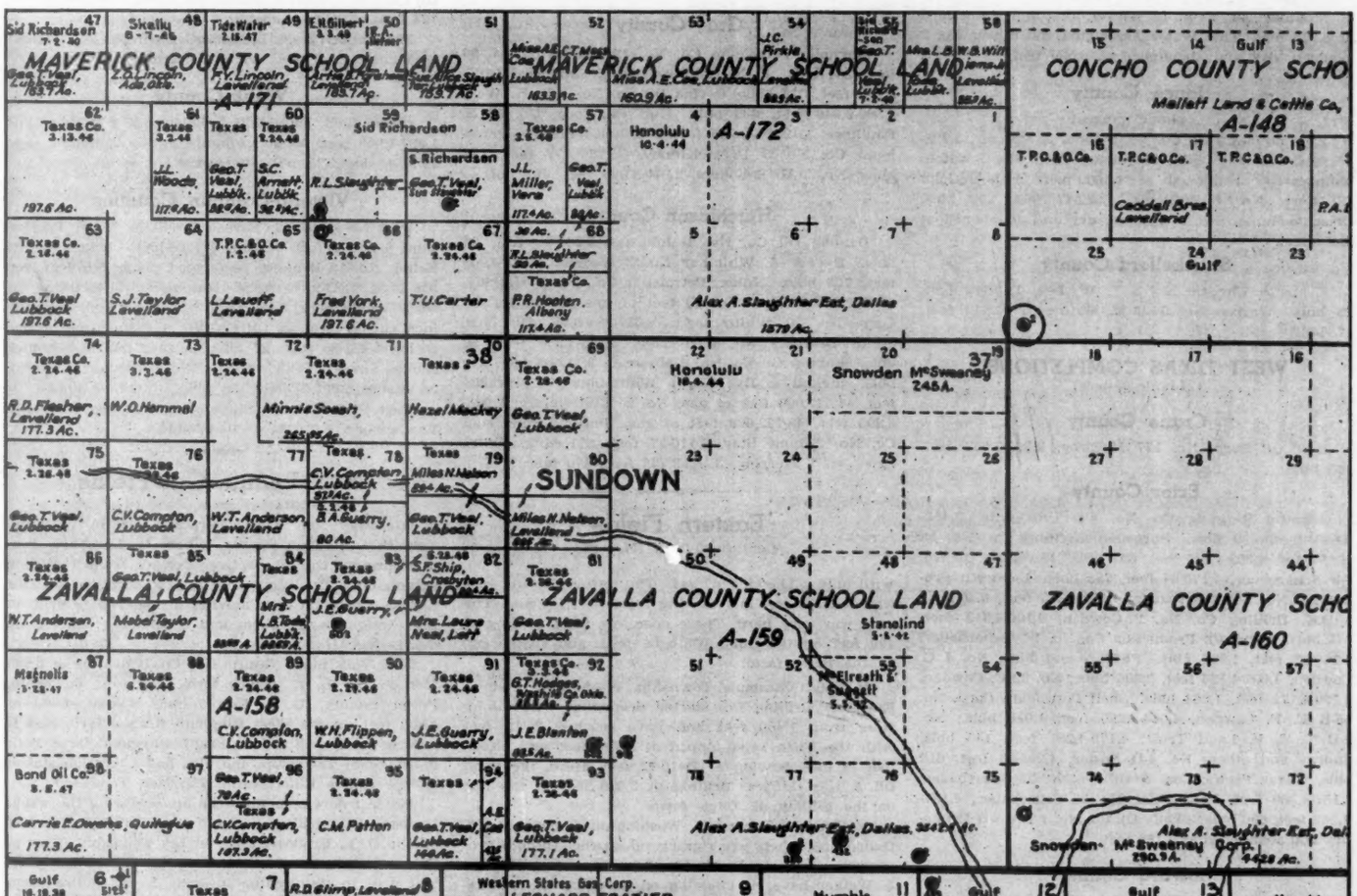
In the Moss pool of southwestern Ector County, Sinclair Prairie No. 2-B Paul Moss, Section 40, Block 44, T.&P. Survey, assured the pool a half-mile southwest extension when it topped the pay 3,950 feet and drilled to 4,050 feet where the test began heading oil. Drilling will continue a few feet below 4,050 feet before a production test is made. The discovery well produced 17½ bbls. of oil in the first eight hours from a plugged-back depth of 4,120 feet, when tested initially.

Dickens County

Indications were seen last week of the first commercial production for Dickens County in a test drilled by J. F. Morrissey on the C. D. Bird lands in Section 290, Block 1, H.&G.N. Survey, about 1½ miles east of the Crosby County line. The test was bottomed at 2,556 feet where several heads of oil were made. After being shut in for a day the well was opened and flowed salt water. Operators are trying to determine the source of the water which is believed to be coming from behind the casing set at 2,550 feet.

CENTRAL TEXAS

Young County, which has been the center of much activity over the past few weeks, received another new shallow producing area when W. S. Willis and others No. 1 G. P. Steward in the D. Dawson Survey, Abstract 76, in the northern part of the county, drilled 15½ feet of sand topped at 835 feet. The well pumped



Zingery Oil Map Co., Fort Worth

Entire Slaughter pool of Hockley County, with the Gulf Oil Corp. No. 1 Mallet, recent 3-mile extension to the field encircled

105 bbls. of oil in 24 hours, which is the largest production for any of the shallow wells from this depth in the county. A second test is now drilling below 200 feet, while the pool's discoverer has staked five locations on the lease and another firm has staked two locations. The new pool is 1 mile south of production opened in 1923 from the 850-foot level.

Shackelford County received a new shallow pool when John T. Cross pumped 10 bbls. per day from his well on the Dennis Heirs land of Section 15, L.A.L. Survey, near Greer Mountain. The test is bottomed at 385 feet.

Prospective extension of a half mile for the Pardue pool of southern Haskell County was seen when Texas Pacific Coal & Oil Co. No. 1 R. L. Livengood topped saturated Adams Branch lime at 2,805 feet. The outpost is located in the south 43 acres of Section 8, Block 1, H.&T.C. Survey. Drilling has been suspended and operators are setting casing for a test.

In Throckmorton County, Jones & Stasney No. 1 C. T. Brockmon, deep discovery well in Block 95, C.I.R. Survey, in the southwestern part of the county, is still troubled by salt water. When the well is shut in for a day, it can be opened for a good flow of about 60 or 70 bbls. of oil in the first hour, but, after about two hours, salt water appears the oil flow ceases. The owners are trying to ascertain source of the salt water.

WEST CENTRAL TEXAS COMPLETIONS

Brown County

Evans No. 1 Garms, dry and abandoned at 1,032 feet. Irving No. 1 Giddings, 1,530-57 feet, 6 bbls. per day.

Comanche County

McCarter & Anderson No. 1 Smith, dry and abandoned at 3,000 feet.

Fisher County

Montour No. 1 W. L. Barker, dry and abandoned at 3,593 feet. Tide Water Associated and others No. 2 Waddell, dry and abandoned at 3,590 feet.

Jones County

(24-hour gauges)

Iron Mountain Oil Co. No. 5 Jones & Stasney, 3,228-44 feet, 180 bbls. Erin Petroleum Corp. No. 1 Caton, temporarily abandoned at 1,466 feet. Fain-McGaha Oil Corp. No. 4 Williams, 1,922-47 feet, 295 bbls. Grisham-Hunter No. 2 Appling, dry and abandoned at 2,659 feet.

Shackelford County

Evans & Christie No. 2 T. W. Lee, 1,150-82 feet, 25 bbls. Warren No. 5 J. B. Matthews, 912-14 feet, 17 bbls.

WEST TEXAS COMPLETIONS

(24-hour gauges)

Crane County

Gulf Oil Corp. No. 177 McElroy, 2,802-3,057 feet, 405 bbls.

Ector County

Atlantic Refining Co. No. 4-B University, 3,450-3,650 feet, 390 bbls. Barnsdall Refining Co. No. 18 H. Foster, 4,098-4,220 feet, 657 bbls. Devonian Oil No. 6-F Scharbauer, 4,170-94 feet, 783 bbls. Landreth Production No. 1-P Scharbauer, 4,160-4,205 feet, 629 bbls. M.B.K. Drilling Co. No. 2 Cowden, 4,100-4,313 feet, 645 bbls. Landreth Production Co. No. 1-O Scharbauer, 4,160-93 feet, 1,524 bbls. Phillips and Pure No. 4 C. Cowden, 4,092-4,135 feet, 2,306 bbls.; No. 32 C. Cowden, 4,100-4,172 feet, 1,364 bbls. Shell Petroleum Corp. No. 15-B E. F. Cowden, 4,064-4,280 feet, 1,016 bbls.; No. 3-B T. & P. Land Trust, 4,179-4,281 feet, 145 bbls. Sunray and others No. 4-D Foster, 4,208-65 feet, 613 bbls. Texas Pacific Coal & Oil Co. No. 22 Scharbauer, 4,151-4,260 feet, 1,568 bbls.; No. 25 Scharbauer, 4,137-4,263 feet, 696 bbls. Skelly Oil Co. No. 1 Elwood Estate, dry and abandoned at 5,183 feet.

Howard County

Ajax Drilling Co. No. 1 O'Daniel, 2,660-2,829 feet, 496 bbls. Continental Oil Co. No. A-2-3 Settles, dry and abandoned at 1,331 feet. Lockhart Oil Co. No. 3 Robert Scott, 2,638-2,854 feet, 1,571 bbls.

Pecos County

W. T. Bartlett and others No. 1 L. L. Byrnes, dry and abandoned at 1,510 feet. J. D. Kugle, Jr., No. 1 H. L. Cards, 2,065-78 feet, 53 bbls. Superior Oil Co. No. 2 C. Brandenburg, 2,296-2,304 feet, 139 bbls.

Upton County

Anderson & Prichard No. 2 Elder, 2,180-2,220 feet, 988 bbls.; No. 2 Sherk, 2,625-2,749 feet, 496 bbls. Brown-Hancock-Hines No. 6 D. Baker, 2,190-2,248 feet, 1,187 bbls. Getty Oil No. 3 Shark, 2,669-2,755 feet, 114 bbls.

Ward County

Gulf Oil Corp. No. 101 Estes, 2,512-2,610 feet, 384 bbls.; No. 99 O'Brien, 2,527-2,770 feet, 436 bbls. Hoss & Downey No. 1 Avery, dry and abandoned at 2,215 feet. Magnolia Petroleum Co. No. 7-46 Sealy, 2,745-2,850 feet, 432 bbls. O. E. Schkade No. 2 Booger, 2,015-38 feet, 20 bbls. Falls Oil Co. No. 1 D. L. Johnson, 1,960-2,230 feet, 314 bbls.

Winkler County

J. T. Barnes No. 2 Crume, 3,315-51 feet, 171 bbls. Humble Oil & Refining Co. No. 10 D. Walton, 2,765-2,990 feet, 611 bbls. Magnolia Petroleum Co. No. 172 Walton, 2,820-2,921 feet, 855 bbls.

Yoakum County

J. W. Murchinson No. 2 Fairman, 4,808-5,108 feet, 604 bbls. Gulf Oil Corp. No. 1 Lucy K. Moore, 4,910-5,100 feet, 464 bbls. Phillips Drilling Co. No. 1 W. A. O'Brien, dry and abandoned at 5,506 feet.

PANHANDLE COMPLETIONS

(24-hour gauges)

Carson County

Hagy, Harrington & Marsh No. 2 Warren, 2,655-2,810 feet, 21,533,000 feet of gas; No. 8 McConnell, 2,700-2,820 feet, 18,448,000 feet. Magnolia Petroleum Co. No. 44 fee, 2,960-3,015 feet, 579 bbls.

Gray County

Magnolia Petroleum Co. No. 12 Haggard, 3,282-90 feet, 164 bbls. C. N. Ochiltree No. 2 Saunders, 3,165-3,243 feet, 672 bbls. Gerina Oil Co. No. 1 L. H. Well, 2,590-2,640 feet, 662 bbls. Gulf Oil Corp. No. 14 S. Faulkner A, 2,893-2,985 feet, 105 bbls. Phillips Petroleum Co. No. 3 B. McKinney, 3,170-3,277 feet, 317 bbls.; No. 2 H. Saunders, 2,940-3,006 feet, 461 bbls.

Hutchinson County

Danube Oil Co. No. 1 Johnson, 3,045-50 feet, 20 bbls. Devore & Whitaker No. 3 Hodges, 2,935-3,068 feet, 705 bbls. Huber Petroleum Co. No. 7 Herring, 2,745-2,870 feet, 12,908,000 feet of gas. Midstates Oil Corp. No. 20 Whittenburg, 2,657-78 feet, 440 bbls. Smith Brothers No. 2 Herring, 3,165-3,230 feet, 20 bbls. Stayton Oil Co. No. 9 Moore C, 3,112-65 feet, 210 bbls. Stekoll & Dye No. 1 Whittenburg, 2,910-3,205 feet, 44,637,000 feet of gas; No. 2 Whittenburg, 2,925-3,205 feet, 46,122,000 feet of gas. Phillips Petroleum Co. No. 2 Lone Star, 3,116-57 feet, 271 bbls. Smith Bros. No. 3 Herring, 3,183-3,238 feet, 470 bbls.

Eastern Fields

(Continued from Page 60)

with only a showing of gas. The top of the Big lime was at 1,135 feet and the Big Injun at 1,167 feet. The sand was very hard. These operators were drilling at 400 feet on the Luke Williams farm and rigging up on the Bates farm.

In South Strabane Township, Washington County, Keystone Drilling Co. started deepening No. 1 John Ross from 1,450 feet and have reached 2,412 feet with the Fifth sand topped at 2,401 feet and 50,000 feet of gas showing at 2,410-12 feet. Here, the Penn Oil & Gas Co. was drilling at 2,920 feet in the test on the William E. Davis farm.

In Buffalo Township, Washington County, R. M. Duden and others are rigging up on the Antonio Provenzano farm. In South Franklin Township, Hennen & Walker have rig standing on the Mary M. Andrew farm.

In Morris Township, Washington County, Union Gasoline & Oil Corp. is down 1,883 feet in No. 2 G. L. Craft. In Fallowfield Township, the Naoma Oil & Gas Co. are drilling at 1,350 feet in the test on the James M. Williams farm.

In Allegheny County, Hope Construction & Refining Co. is down 3,156 feet, deepening No. 4 Adam Elicker with the Speechley sand void of production at 3,098-3,124 feet.

Greene County

In Washington Township, Greene County, Equitable Gas Co. is drilling at 1,770 feet on the John Huffman farm; in Center Township, drilling at 3,150 feet deepening No. 2522 D. M. Thorp, and drilling on the G. M. Kuhn farm at 3,307 feet. In Greene Township, this company had reached 2,685 feet, deepening No. 4013 W. L. Jacobs, and in Franklin Township, is shut down at 3,147 feet in No. 7067 W. L. Jacobs.

In Aleppo Township, Burleigh Wright ran 8¼-inch casing to 1,600 feet in the test on the William McVay farm and is drilling out cement. Here, Cochran & Cochran are shut down at 2,396 feet in No. 4 John Strope. In Morris Township, R. E. Hoskinson and others are at 2,000 feet in the test on the H. W. Ealy-C. C. Conklin farm.

In Beaver County, John T. Galey and others have a fishing job in the deep test on the Eliza Allen heirs in South Beaver Township. While drilling through the Onondaga the line became unstranded, bailed up and parted, and a mass of wire retards bringing the tools to the surface.

Southwest Texas Fields

(Continued from Page 61)

5,910 feet, 627 bbls., quarter-inch choke. Republic Natural Gas Co. No. 3 O'Connor, 6,562 feet, distillate well.

Tomoconnor field: Hewitt & Dougherty No. 74 Lambert, 6,540 feet, abandoned. Quintana Petroleum Co. No. 22 Heard, 5,925 feet, 1,495 bbls., three-eighths inch choke.

San Patricio County

East White Point field: Plymouth Oil Co. No. 3 Nelson, 5,676 feet, 148 bbls., 7/64-inch choke. Plymouth Oil Co. No. 1 Sparks, perforated casing 5,653-56½ feet, 124 bbls., 7/64-inch choke.

McCampbell field: Conservative Oil Co. No. 1 Moore & Young, 7145 feet, 85 bbls., jetting.

Webb County

Oilton field: Massingill & Belew No. 1 Martin, sand 1,897-1,903 feet, 30 bbls., pumping; No. 2 Martin, sand 1,991-94 feet, 25 bbls., pumping.

Victoria-Calhoun Counties

Port Lavaca field: Barnsdall Oil Co. No. 2 Traylor, sand 5,468-74 feet, 99 bbls., 7/64-inch choke. George Echols No. 11 Bennett, perforated casing 5,574-80 feet, 336 bbls., 5/32-inch choke. Humble Oil & Refining Co. No. 3 Vandenberg, 5,487 feet, 5 bbls. per hour, quarter-inch choke. Seaport Oil Co. No. 4 Diemer, perforated casing 5,481-86 feet, 27 bbls. in four hours, 7/64-inch choke. Sinclair Prairie Oil Co. No. 6 Bennett, perforated casing 6,025-37 feet, 36 bbls., 3/32-inch choke.

East Placedo field: Stanolind Oil & Gas Co. No. 3 Vandenberg, 6,510 feet, abandoned.

N. Y.-Penna. Gas Fields

(Continued from Page 64)

All other New York operations are in Woodhull Township, Steuben County, where G. L. Cabot, Inc., is at present the lone active operator from a drilling standpoint. This company has a location on the Charles Crane farm, is moving in material to drill on the Elmer Downey farm and is building the rig on the George Hotaling farm.

New York State Natural Gas Co. is drilling at 3,985 feet on the L. E. Hanes farm, Harrison Township, Potter County. G. L. Cabot, Inc., is shut down at 4,866 feet on the West Bingham Grange farm and is moving in to drill on the Frank Raymond farm, both in Bingham Township, and also has a location staked on the Emma Elliott farm, Harrison Township.

Wildcat developments were minor during the week: Updegraph is drilling at 5,485 feet in his Medina test on the O. E. Erickson farm in Elk Township, Warren County; Wasson and others have announced that they will drill to the Medina in their E. S. Collins farm test in Howe Township, Warren County, which found the Oriskany dry at 5,193-98 feet, and McKenry and others are still cleaning out their continually caving hole on the Stellman farm, Rockland Township, Venango County.

G. L. Cabot, Inc., is drilling at 1,480 feet on the Flora Bell Joy farm in Brookfield Township, Tioga County.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
Wilshire Oil, No. 1 Hollister, Gaviota, Santa Barbara	35- 5-33	4,650	dry; abd.
Shell Oil, No. 1-28 Covarrubias, Capitan, S. Barbara	32- 5-30	1,292	sd. sh. drlg.
Barnsdall Oil, No. 19 Bell, Elwood, Santa Barbara	15- 4-29	5,500	sd. sh. drlg.
Hancock-Bush, No. 3 Bradley, Santa Maria, S. Barbara	26-10-34	3,050	sd. sh. drlg.
Hancock-Bush, No. 3 Cal. Lands, Santa Maria, S. Barb.	30-10-33	4,435	pump. 580 b.d.
Union Oil, No. 4 Vicente, Santa Maria, S. Barbara	21-10-34	3,382	sd. sh. drlg.
Union Oil, No. 2 Wheat, Santa Maria, Santa Barbara	22-10-34	3,945	dry; abd.
Standard Oil, No. 1 Cat Canyon, Santa Barbara	27- 9-33	6,440	pump 705 b.d.
Douglas Oil, No. 1 Stratton, Los Alamos, S. Barbara	8- 8-33	6,000	idle
Barnsdall Oil, No. 5 Magenheimer, Gato Ridge, S. B.	9- 8-32	2,860	hd. sh. drlg.
Petrol Corp., No. 511 Magenheimer, Gato Ridge, S. B.	9- 8-32	3,740	br. sh. drlg.
Oceanic Oil, No. 1 Santa Barbara Mesa, S. Barbara	28- 4-27	3,296	sd. sh. drlg.
High Mesa Oil, No. 1 Butcher, Ojai, Ventura	16- 4-22	1,691	fishing
Holly Dev., No. 1 Macrate, Ojai, Ventura	27- 4-23	4,786	br. sh. drlg.
Ventura Drlg., No. 1, Ojai, Ventura	10- 3-23	350	sd. sh. drlg.
Texas Co., No. 5 Yale, South Mountain, Ventura	13- 3-21	6,156	sd. sh. drlg.
Merchants Pet., No. 1, Sespe, Ventura	1- 4-20	865	hd. sh. drlg.
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	570	hd. sh. drlg.
Section 20 Oil, No. 1, Sespe, Ventura	20- 5-19	2,115	sd. sh. drlg.
McKinnis, C. R., No. 1, Hopper Canyon, Ventura	14- 4-19	671	sd. sh. drlg.
Texas Co., No. 135 Shiells, Shiells Canyon, Ventura	4- 3-19	668	sd. sh. drlg.
Continental Oil, No. 9 Grubb, San Miguelito, Ventura	24- 3-24	5,271	sd. sh. drlg.
Ridge Oil, No. 1 Fox, Padre Canyon, Ventura	9- 3-24	1,962	sd. sh. drlg.
C. C. M. Oil, No. 7 Oakgrove, Padre Canyon, Ventura	23- 3-24	4,070	gr. sd. drlg.
C. C. M. Oil, No. 7-C Hobson, Rincon, Ventura	17- 3-24	3,602	P.B. 3,561
Richfield Oil, No. 5-F State, Rincon, Ventura	17- 3-24	2,561	sd. sh. drlg.
Tide Wtr. A. O., No. 39 V.L.W., Ventura Ave., Ventura	24- 3-23	7,020	flow 145 b.d.
Tide Wtr. A. O., No. 75 Lloyd, Ventura Ave., Ventura	26- 3-23	6,860	sd. sh. drlg.
Tide Wtr. A. O., No. 111 Lloyd, Vent. Ave., Ventura	27- 3-23	9,803	tested wet
Tide Wtr. A. O., No. 127 Lloyd, Vent. Ave., Ventura	27- 3-23	8,685	sd. sh. drlg.
Tide Wtr. A. O., No. 134 Lloyd, Vent. Ave., Ventura	27- 3-23	8,378	cleaning out
Tide Wtr. A. O., No. 7 Hartman, Vent. Ave., Ventura	22- 3-23	7,081	sd. sh. drlg.
Tide Wtr. A. O., No. 11 McGonigle, Vent. Av., Ventura	23- 3-23	9,190	hd. sd. drlg.
Shell Oil, No. 96 Taylor, Ventura Ave., Ventura	28- 3-23	7,390	cleaning out
Shell Oil, No. 30 Edison, Ventura Ave., Ventura	20- 3-23	5,981	sd. sh. drlg.
Shell Oil, No. 31 Edison, Ventura Ave., Ventura	20- 3-23	7,798	mill tubing
General Pet., No. 18 Barnard, Ventura Ave., Ventura	21- 3-23	8,110	O. S. drlg.
Lloyd Corp., No. 2 Dabney-Lloyd, Vent. Ave., Ventura	23- 3-23	4,187	sd. sh. drlg.
Gibson Oil, No. 3 Alferitz, Devils Den, Kern	14-25-18	940	hd. sd. drlg.
Cal. Lands, Inc., No. 1 Occidental, Lost Hills, Kern	24-26-20	2,697	sd. sh. drlg.
Belridge Oil, No. 27-13, North Belridge, Kern	27-27-20	5,490	sd. sh. drlg.
Belridge Oil, No. 27-19, North Belridge, Kern	27-27-20	2,168	sd. sh. drlg.
Tide Water A. O., No. 22-3, North Belridge, Kern	22-27-20	4,996	sd. sh. drlg.
Richfield Oil, No. 2 Belridge, North Belridge, Kern	22-27-20	8,240	hd. sd. drlg.
Texas Co., No. 4 Martin, North Belridge, Kern	22-27-20	8,330	O. S. drlg.
B. & S. Drlg., No. 1 Newberry, Round Mountain, Kern	32-28-29	1,580	sd. sh. drlg.
Honolulu Oil, No. 49, Round Mountain, Kern	20-28-29	1,804	sd. sh. drlg.
Honolulu Oil, No. 58 Round Mountain, Kern	20-28-29	412	sd. sh. drlg.
Kern Oil, No. 25-3-C, Kern Front, Kern	25-28-27	1,987	P.B. 1,965
Helm & Smith, No. 6-A Kernco, Kern River, Kern	34-28-28	670	rig to pump
Cal. Star. Oil, No. 5-80, Kern River, Kern	22-28-27	2,660	gr. sd. drlg.
Barnhart & Morrow, No. 5 KCL, Kern River, Kern	11-28-27	1,733	pump 25 b.d.
Hast Oil, No. 4 Kern, Kern River, Kern	34-28-28	335	pump 20 b.d.
Federal Drlg., No. 3 Glide, Mount Poso, Kern	13-26-28	2,200	idle
Ring Oil, No. 7 Bowles, Mount Poso, Kern	29-26-28	1,740	rig to pump
Ring Oil, No. 3 Rogers-Jones, Mount Poso, Kern	29-26-28	1,691	rig to pump
Richfield Oil, No. 1, Union Avenue, Kern	6-30-28	4,441	sd. sh. drlg.
Western Gulf Oil, No. 38-B, KCL, Fruitvale, Kern	14-29-27	3,012	O. S. drlg.
Meridian Oil, No. 5 fee, Fruitvale, Kern	23-29-27	2,010	sd. sh. drlg.
Texas Co., No. 1 Lowe, Fruitvale, Kern	7-29-27	8,728	gr. sd. drlg.
Pacific O. & G., No. 3 Guisti, Fruitvale, Kern	14-29-27	2,964	rig to pump
Hogan Pet., No. 3 Peters, Mountain View, Kern	5-31-29	5,460	rig to pump
Greer, P. H., No. 2 Perrel, Mountain View, Kern	9-31-29	6,638	D.P. stuck
Continental Oil, No. 3-A KCL, Wasco, Kern	8-27-24	11,997	sd. sh. drlg.
Continental Oil, No. 1 KCL, Seaboard, Wasco, Kern	26-27-24	12,778	fishing
Standard Oil, No. 8-1-B KCL, Wasco, Kern	17-27-24	11,860	sd. sh. drlg.
Standard Oil, No. 1 Mushrush, Wasco, Kern	7-27-24	10,791	sd. sh. drlg.
Superior Oil, No. 2 Ruhl, Rio Bravo, Kern	1-29-25	3,171	sd. sh. drlg.
Superior Oil, No. 1 Helbling, Rio Bravo, Kern	1-29-25	13,810	sd. sh. drlg.
Union Oil, No. 2-34, KCL, Rio Bravo, Kern	34-28-25	11,204	redrlg. 9,770
Union Oil, No. 4-34, KCL, Rio Bravo, Kern	34-28-25	11,440	O. S. drlg.
Union Oil, No. 5-34, KCL, Rio Bravo, Kern	34-28-25	8,930	sd. sh. drlg.
General Pet., No. 1 Wagoner, Rio Bravo, Kern	35-28-25	11,510	flow 2,765 b.d.
General Pet., No. 4 Wagoner, Rio Bravo, Kern	35-28-25	10,377	sd. sh. drlg.
Standard Oil, No. 18-1, KCL, Una, Kern	29-28-26	10,499	dry; abd.
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	10,075	sd. sh. drlg.
Superior Oil, No. 1 Krause, Greeley, Kern	21-29-26	8,294	sd. sh. drlg.
Continental Oil, No. 2-B, KCL, Rosedale, Kern	12-29-26	8,261	sd. sh. drlg.
Continental Oil, No. 1-E, KCL, Stevens, Kern	17-30-26	8,574	P.B. 8,230
Standard Oil, No. 15-2, KCL, Canfield Ranch, Kern	27-30-26	8,525	dry; abd.
Shell Oil, No. 67-30-A, KCL, Ten Section, Kern	30-30-26	6,891	sd. sh. drlg.
Shell Oil, No. 2-32-B, KCL, Ten Section, Kern	32-30-26	8,200	flow 2,493 b.d.
Shell Oil, No. 72-31-B, KCL, Ten Section, Kern	31-30-26	8,089	O. S. drlg.
Shell Oil, No. 67-20-B, KCL, Ten Section, Kern	20-30-26	8,074	O. S. drlg.
Shell Oil, No. 45-14-A, KCL, Canal, Kern	14-30-25	7,681	sd. sh. drlg.
Ohio Oil, No. 8-E, KCL, Canal, Kern	14-30-25	6,170	sd. sh. drlg.
Standard Oil, No. 1 Rio Bravo fee, Canal, Kern	12-30-25	2,784	sd. sh. drlg.
Richfield Oil, No. 1 KCL, Tupman, Kern	32-30-25	6,594	sd. sh. drlg.
Ohio Oil, No. 1-F, KCL, Coles Levee, Kern	10-31-25	3,761	sd. sh. drlg.
Ohio Oil, No. 8-A, KCL, Buena Vista Lake, Kern	32-31-26	11,186	testing
Signal Oil, No. 5 Kendon, Midway-Sunset, Kern	35-32-23	2,180	pump 126 b.d.
Cates, M. B., No. 8 Special, Midway-Sunset, Kern	2-11-24	634	pump 10 b.d.
Mascot Oil, No. 3 Midway, Midway-Sunset, Kern	36-32-23	1,650	bailing
Magnuson, C. A., No. 1 Midway, Midway-Sunset, Kern	19-31-23	2,792	sd. sh. drlg.
Big Ten Oil, No. 12 Midway, Midway-Sunset, Kern	36-32-23	1,215	O. S. drlg.
Shell Oil, No. 4-26, KCL, San Emidio, Kern	26-11-32	10,370	sd. sh. drlg.
Richfield Oil, No. 1, KCL, Wheeler Ridge, Kern	28-11-20	5,904	milling
Pure Oil, No. 1 SPL, Huron, Fresno	31-18-17	11,825	hd. sh. drlg.
Magnet Oil, No. 2 Fearon, Fresno	18-19-15	3,550	redrlg. 3,387
Jacalitos Oil, No. 1, Jacalitos Hills, Fresno	14-21-15	6,950	hd. sh. drlg.
Pet. Sec., No. 7-7-F, Guijarral Hills, Fresno	18-20-16	6,096	sd. sh. drlg.
Pet. Sec., No. 88-12-C Grimes, Guijarral Hills, Fresno	12-20-15	6,668	sd. sh. drlg.
Goetz, F., No. 1, Guijarral Hills, Fresno	10-20-15	5,851	sd. sh. drlg.
Standard Oil, No. 82-13 fee, Guijarral Hills, Fresno	13-20-15	5,296	sd. sh. drlg.
Texas Co. No. 19 Mohawk, Guijarral Hills, Fresno	12-20-15	4,424	P.B. 4,331
Universal Cons'd. Oil, No. 1, Guijarral Hills, Fresno	12-20-15	6,580	hd. sd. drlg.
Tide Water A. O., No. 56 Guardian, Guij. Hills, Fresno	12-20-15	4,981	sd. sh. drlg.
Superior Oil, No. 1 Hight, Guijarral Hills, Fresno	8-20-15	7,346	sd. sh. drlg.
Dauphin Dev., No. 2 Boone, Alcalde, Fresno	30-21-14	593	rigging up
K.N.D.A., No. 85-34-J, Kettleman North, Kings	34-21-17	8,470	cleaning out
K.N.D.A., No. 38-6-Q, Kettleman North, Kings	6-22-18	6,990	br. sh. drlg.
K.N.D.A., No. 27-8-Q, Kettleman North, Kings	6-22-18	7,200	sd. sh. drlg.
K.N.D.A., No. 58-8-Q, Kettleman North, Kings	8-22-18	7,296	br. sh. drlg.
K.N.D.A., No. 27-16-Q Kettleman North, Kings	16-22-18	8,442	recmtd. 7,808
K.N.D.A., No. 38-16-Q, Kettleman North, Kings	16-22-18	5,961	br. sh. drlg.
K.N.D.A., No. 43-20-Q, Kettleman North, Kings	20-22-18	8,930	gr. sd. drlg.
K.N.D.A., No. 27-22-Q, Kettleman North, Kings	22-22-18	8,290	sd. sh. drlg.
Standard Oil, No. 21-13-P, Kettleman North, Kings	13-22-17	7,650	sd. sh. drlg.
Standard Oil, No. 74-7-Q, Kettleman North, Kings	7-22-18	8,895	completing
Standard Oil, No. 41-17-Q, Kettleman North, Kings	17-22-18	4,982	sd. sh. drlg.
Standard Oil, No. 61-21-Q, Kettleman North, Kings	21-22-18	6,990	sd. sh. drlg.
Irving, A. R., No. 1 Bisconer, Dudley Ridge, Kings	11-24-20	1,896	sd. sh. drlg.
Tri-Counties Oil, No. 1, Alpaugh, Kings	10-23-22	7,798	idle
Caminol Co., No. 3 Allensworth, Tulare	29-24-24	7,555	will deepen
Crusaders Oil, No. 1 Muller, Ducor, Tulare	1-24-27	1,098	sd. sh. drlg.
Texas Co., No. 1 Lewis, King City, Monterey	13-19- 5	2,198	br. sh. drlg.
Cal. Pet. Prod., No. 1 Jobe, Elkhorn, San Luis Obispo	6-10-24	2,215	hd. sd. drlg.
Cal Pet. Prod., No. 1 Irons, Elkhorn, San Luis Obispo	19-10-24	2,097	hd. sd. drlg.
Vanguard Oil, No. 1 Creston, San Luis Obispo	26-27-14	4,960	sd. sh. drlg.
Hancock Oil, No. 1 Dick, Huasna, San Luis Obispo	30-12-33	5,598	P.B. 5,080
Ohio Oil, No. 1-A Willard, Willows, Glenn	18-20- 2	6,014	P.B. 2,364
Amerada Pet., No. 1 California Lands, Colusa, Colusa	34-16- 1	6,260	sd. sh. drlg.
Richfield Oil, No. 1, Potrero Hills, Solano	10- 4- 1	3,650	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
Sovereign Oil, No. 2 Community, El Segundo, L. Ang.	12- 3-15	7,331	sd. sh. drlg.
Sovereign Oil, No. 1 Coppinger, El Segundo, L. Ang.	12- 3-15	7,060	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shut off O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Rolling Hills Oil, No. 1 Weston, Palos Verdes, L. A.	27-	4-14	5,088	fish. D.P.
Allison & Oglesby, No. 1 Gerner, Torrance, L. Ang.	23-	4-14	4,896	sd. sh. drlg.
Bergseid & Clark, No. 1 Basin, Torrance, Los Angeles	23-	4-14	3,783	will deepen
Blue Bell Pet., No. 1 Simons, Torrance, Los Angeles	23-	4-14	4,892	sd. sh. drlg.
Caldale Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,835	sd. sh. drlg.
Collier, P. V., No. 1 Smith, Torrance, Los Angeles	23-	4-14	3,605	will deepen
Consolidated Pet., No. 3, Torrance, Los Angeles	23-	4-14	4,380	sd. sh. drlg.
Cal. Star Oil, No. 1 Whitacre, Torrance, Los Angeles	23-	4-14	4,590	sd. sh. drlg.
Douglas, A., No. 1 Scotty, Torrance, Los Angeles	23-	4-14	1,151	sd. sh. drlg.
Dunphy, S. R., No. 1 Lomita, Torrance, Los Angeles	23-	4-14	5,002	sd. sh. drlg.
Elexico Oil, No. 3 Allen, Torrance, Los Angeles	22-	4-14	4,680	sd. sh. drlg.
Eriksson, G., No. 3 Fortuna, Torrance, Los Angeles	23-	4-14	4,936	sd. sh. drlg.
Falma Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,980	sd. sh. drlg.
Fiat Oil, No. 1 Seeple, Torrance, Los Angeles	23-	4-14	4,819	O. S. drlg.
Freeman Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,880	sd. sh. drlg.
Hansco Oil, No. 2 Lomita, Torrance, Los Angeles	14-	4-14	4,830	idle
H. D. Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	3,807	rigged up
Jewell Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	4,963	sd. sh. drlg.
Jones-Long Oil, No. 2, Torrance, Los Angeles	23-	4-14	3,374	sd. sh. drlg.
Kenber Oil, No. 1 Berken, Torrance, Los Angeles	23-	4-14	4,196	sd. sh. drlg.
Kovell Oil, No. 2 Lomita, Torrance, Los Angeles	23-	4-14	4,786	sd. sh. drlg.
Louisiana Oil, No. 1 Lord, Torrance, Los Angeles	22-	4-14	3,800	will deepen
Mildon Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	3,580	sd. sh. drlg.
Maldum Oil, No. 1 R. K., Torrance, Los Angeles	23-	4-14	4,940	sd. sh. drlg.
Morton & Elder, No. 1 Ritzer, Torrance, Los Angeles	22-	4-14	4,993	tested wet
Medill, John, No. 4 Frenger, Torrance, Los Angeles	23-	4-14	3,595	rigging up
McDonald & Burns, No. 10 Moore, Torrance, L. Ang.	22-	4-14	4,770	sd. sh. drlg.
McCaslin, W. E., No. 2, Torrance, Los Angeles	14-	4-14	4,993	acidized
McWherter, C. L., No. 1 Lomita, Torrance, L. Angeles	23-	4-14	4,930	sd. sh. drlg.
M. P. S. Oil, No. 1 Julian, Torrance, Los Angeles	23-	4-14	4,990	sd. sh. drlg.
Monica Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	1,897	sd. sh. drlg.
Moon Oil, No. 2 Julian, Torrance, Los Angeles	23-	4-14	3,787	rigged up
O'Donnell, J. L., No. 42 Lomita, Torrance, L. Angeles	23-	4-14	4,988	rig to pump
Oil Dev., No. 1 Dunphy, Torrance, Los Angeles	23-	4-14	4,472	sd. sh. drlg.
Pennsylvania Oil, No. 1 Lomita, Torrance, L. Angeles	23-	4-14	4,760	sd. sh. drlg.
Pacific West. Oil, No. 2 Marble, Torrance, L. Angeles	15-	4-14	4,980	pump 260 b.d.
Packard Pet., No. 4 Kelley, Torrance, Los Angeles	23-	4-14	4,780	sd. sh. drlg.
Packard Pet., No. 5 Kelley, Torrance, Los Angeles	22-	4-14	3,592	sd. sh. drlg.
Packard Pet., No. 6 Silver, Torrance, Los Angeles	23-	4-14	4,910	sd. sh. drlg.
Standard Oil, No. 1-12 Marble, Torrance, L. Angeles	22-	4-14	4,855	O. S. drlg.
Standard Oil, No. 1-13 Marble, Torrance, L. Angeles	22-	4-14	3,810	rigged up
Star Pet., No. 2 G & A, Torrance, Los Angeles	23-	4-14	4,983	flow 148 b.d.
Star Pet., No. 1 Patton, Torrance, Los Angeles	23-	4-14	4,482	sd. sh. drlg.
Star Pet., No. 1 Schatz, Torrance, Los Angeles	23-	4-14	4,980	pump 180 b.d.
Sol Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	5,144	pump 230 b.d.
Sonwell Oil, No. 4, Torrance, Los Angeles	23-	4-14	4,962	sd. sh. drlg.
Silver Strand Oil, No. 2, Torrance, Los Angeles	22-	4-14	2,893	sd. sh. drlg.
Ter Heun Oil, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	3,941	P.B. 3,550
Texas Co., No. 11 Wilson, Torrance, Los Angeles	14-	4-14	5,026	fish liner
Imperial Gypsum, No. 2 Getty, Torrance, L. Angeles	14-	4-14	5,060	pump 75 b.d.
Imperial Gypsum, No. 3 Getty, Torrance, L. Angeles	14-	4-14	3,747	rigged up
Young & Bryan, No. 1 Lomita, Torrance, Los Angeles	23-	4-14	5,025	gr. sd.; abd.
C. C. M. O., No. 8, Torrance, Los Angeles	14-	4-14	4,390	sd. sh. drlg.
C. C. M. O., No. 16, Torrance, Los Angeles	14-	4-14	4,950	sd. sh. drlg.
Calif. Star Oil, No. 1 Lermens, Harbor City, L. Ang.	25-	4-14	5,298	sd. sh. drlg.
Calif. Star Oil, No. 1 O'Brien, Harbor City, L. Ang.	25-	4-14	5,166	sd. sh. drlg.
Isco Pet., No. 1 Block, Harbor City, Los Angeles	25-	4-13	5,215	sd. sh. drlg.
General Pet., No. 9 Poggi, Harbor City, Los Angeles	30-	4-13	4,285	sd. sh. drlg.
Bush Oil, No. 1 Gimenez, Harbor City, Los Angeles	25-	4-13	4,838	sd. sh. drlg.
Union Oil, No. 58 Callender, Dominguez, L. Angeles	33-	3-13	6,799	flow 60 b.d.
Union Oil, No. 61 Callender, Dominguez, L. Angeles	32-	3-13	6,140	sd. sh. drlg.
Union Oil, No. 62 Callender, Dominguez, L. Angeles	33-	3-13	8,359	sd. sh. drlg.
Shell Oil, No. 95 Reyes, Dominguez, Los Angeles	33-	3-13	9,180	P.B. 9,110
Shell Oil, No. 96 Reyes, Dominguez, Los Angeles	33-	3-13	2,050	cmtd. 951
Stabler, W., No. 2 Marland, Dominguez, Los Angeles	3-	4-13	4,294	redrlg. 2,597
Fairfield, F. E., No. 1 Abel, Rosecrans, Los Angeles	19-	3-13	2,890	sd. sh. drlg.
Exeter Oil, No. 4 Higgins, Rosecrans, Los Angeles	20-	3-13	4,681	sd. sh. drlg.
Barnsdall Oil, No. 5 Trust, Rosecrans, Los Angeles	18-	3-13	7,802	flow 1,600 b.d.
Union Oil, No. 24 Rosecrans, Rosecrans, Los Angeles	19-	3-13	6,249	sd. sh. drlg.
Union Oil, No. 25 Rosecrans, Rosecrans, Los Angeles	19-	3-13	932	sd. sh. drlg.
Universal Consd., No. 5 Trust, Rosecrans, Los Angeles	18-	3-13	4,990	sd. sh. drlg.
Republic Pet., No. 1 Trust, Rosecrans, Los Angeles	18-	3-13	6,141	to deepen
Superior Oil, No. 10 Maxwell, Rosecrans, L. Angeles	20-	3-13	2,497	sd. sh. drlg.
H. B. Oil, No. 1 Stevens, Rosecrans, Los Angeles	20-	3-13	6,033	redrlg. 2,897
Tide Wtr. A. O., No. 1 Porter, San Fernando, L. Ang.	27-	3-16	3,798	hd. sd. drlg.
West Coast Oil, No. 2 Newhall, Los Angeles	27-	4-16	2,782	idle
Royal Lands, No. 1 Ramona, Castaic, Los Angeles	8-	4-17	1,098	sd. sh. drlg.
General Pet., No. 1 Flint, Wilmington, Los Angeles	33-	4-13	3,500	will deepen
General Pet., No. 39 Harbor, Wilmington, L. Angeles	2-	5-13	3,010	pump 165 b.d.
General Pet., No. 45 Harbor, Wilmington, L. Angeles	2-	5-13	2,710	sd. sh. drlg.
General Pet., No. 1 P.E., Wilmington, Los Angeles	2-	5-13	4,100	O. S. drlg.
Allied Pet., No. 22 Wilmington, Los Angeles	33-	4-13	4,230	O. S. drlg.
Bankline Oil, No. 12-U.P., Wilmington, Los Angeles	2-	5-13	2,570	sd. sh. drlg.
Crail Bros., No. 1 Mackallister, Wilmington, L. Ang.	33-	4-13	5,560	pump 112 b.d.
Colter, R. T., No. 6 Colter, Wilmington, Los Angeles	32-	4-13	3,630	sd. sh. drlg.
Hancock Oil, No. 12-B, Wilmington, Los Angeles	2-	5-13	4,048	flow 2,350 b.d.
Hancock Oil, No. 24-C, Wilmington, Los Angeles	2-	5-13	4,192	P.B. 4,065
Hancock Oil, No. 25-C, Wilmington, Los Angeles	2-	5-13	3,020	flow 390 b.r.
Hollywood Oil, No. 3 Baxter, Wilmington, L. Angeles	35-	4-13	2,690	sd. sh. drlg.
Hughes, Walter, No. 1 Harbor, Wilmington, L. Ang.	33-	4-13	5,680	deepened
O'Kane & Brian, No. 1 L.B.H.D., Wilmington, L. A.	2-	5-13	2,941	flow 150 b.d.
O'Kane & Brian, No. 3 L.B.H.D., Wilmington, L. A.	2-	5-13	1,790	sd. sh. drlg.
Macson Oil, No. 55-4-C, Wilmington, Los Angeles	2-	5-13	1,980	sd. sh. drlg.
Richfield Oil, No. 10-P.D., Wilmington, Los Angeles	2-	5-13	1,894	sd. sh. drlg.
Richfield Oil, No. 1-R.O., Wilmington, Los Angeles	2-	5-13	2,490	sd. sh. drlg.
Richfield Oil, No. 3-P.G., Wilmington, Los Angeles	2-	5-13	4,443	redrlg. 3,950
Royalty Service, No. 7-A, Wilmington, Los Angeles	33-	4-13	2,578	sd. sh. drlg.
Superior Oil, No. 2 School, Wilmington, Los Angeles	2-	5-13	2,596	sd. sh. drlg.
Southern Drlg., No. 1-W, Wilmington, Los Angeles	33-	4-13	3,400	redrlg. 3,170
Tide Wtr. A. O., No. 1 Banning, Wilmington, L. Ang.	29-	4-13	3,485	pump 210 b.d.
Union Pacific R. R., No. 82, Wilmington, Los Angeles	4-	5-13	1,970	sd. sh. drlg.
Union Pacific R. R., No. 88, Wilmington, Los Angeles	4-	5-13	2,690	sd. sh. drlg.
Union Pacific R. R., No. 89, Wilmington, Los Angeles	4-	5-13	2,825	flow 510 b.d.
Union Pacific R. R., No. 90, Wilmington, Los Angeles	3-	5-13	1,753	sd. sh. drlg.
Wilbur, V. R., No. 3 S.F., Wilmington, Los Angeles	33-	4-13	3,714	flow 70 b.d.
St. Helens Pet., No. 29 Monterey, Montebello, L. Ang.	2-	2-12	2,990	sd. sh. drlg.
St. Helens Pet., No. 2 Eggleston, Montebello, L. Ang.	2-	2-12	5,710	P.B. 5,663
Union Oil, No. 2 Wilcox, Montebello, Los Angeles	2-	2-12	6,254	sd. sh. drlg.
Union Oil, No. 3 Howard & Smith, Montebello, L. A.	2-	2-12	1,998	sd. sh. drlg.
V-8 Oil, No. 1 Estelle, Montebello, Los Angeles	2-	2-12	6,275	rig burned
West Mon. Oil, No. 2 Seavers, Montebello, L. Angeles	2-	2-12	6,248	sd. sh. drlg.
Mon. Wesco, Inc., No. 1 Seavers, Montebello, L. Ang.	2-	2-12	4,390	sd. sh. drlg.
Standard Oil, No. 3 Harvey, Montebello, Los Angeles	2-	2-12	2,098	sd. sh. drlg.
Mont. Res. Oil, No. 1 M. L. & W., Montebello, L. Ang.	2-	2-12	2,450	sd. sh. drlg.
Herley-Kelly, Inc., No. 1 Masser, Montebello, L. Ang.	2-	2-12	2,640	sd. sh. drlg.
Security L. & W., No. 1 Tobey, Whittier, L. Angeles	8-	2-11	1,933	hd. sh. drlg.
Hilldon Oil, No. 4-B-P, North Long Beach, L. Angeles	13-	4-13	3,871	sd. sh. drlg.
Johnston Drlg., No. 34, Long Beach, Los Angeles	13-	4-13	4,552	cleaning out
Apex Pet., No. 10 Signal, Long Beach, Los Angeles	19-	4-12	3,058	sd. sh. drlg.
Texas Co., No. 2-3 Foster, Long Beach, Los Angeles	19-	4-12	5,000	sd. sh. drlg.
De Soto Oil, No. 1, Long Beach, Los Angeles	30-	4-12	6,610	sd. sh. drlg.
Texas Co., No. 3 Alamitos, Seal Beach, Orange	3-	5-12	5,225	pumped off
Brea Canyon Oil, No. 48, Brea Canyon, Orange	2-	3-10	4,988	will P.B.
Battersby, J. M., No. 1 Carmenita, Orange	21-	3-11	7,512	hd. sh. drlg.
Severns Drlg., No. 1-A McNally, West Coyote, Orange	24-	3-11	5,600	sd. sh. drlg.
Standard Oil, No. 3 Bastanchury, W. Coyote, Orange	16-	3-10	4,098	sd. sh. drlg.
Shell Oil, No. 1 Cuff, Richfield, Orange	29-	3- 9	3,096	P.B. 2,450
Shell Oil, No. 1 Kiker, Richfield, Orange	21-	3- 9	920	sd. sh. drlg.
Beth Oil, No. 1 Dillingham, Yorba, Orange	21-	3- 9	2,338	P.B. 1,500
Richfield Cons'd. Oil, No. 2 Todd, Yorba, Orange	21-	3- 9	1,744	pump 130 b.d.
A. V. Oil, No. 1, Costa Mesa, Orange	16-	6-10	4,660	sd. sh. drlg.
So. Counties Oil, No. 1 Serrano, San Bernardino	22-	2- 8	884	sd. sh. drlg.

OKLAHOMA

Week Ending August 27

NORTHERN OKLAHOMA

Beckham County

Wagner & Stogner No. 1 McGee, NE NE SE sec. 25-8-22w. O.W.D.D.; T.D. 1,029 ft.; S.G.; S.D.

Coal County

Carter et al No. 1 Mote, C E½ SW NW Sec. 19-2-10. Drlg. 6,164 ft.

Comanche County

E. N. Eldridge No. 1 Aetna Life, SW SE SW Sec. 2-1-10w. T.D. 630 ft.; U.R.

Midnite O. & G. Co. No. 1 Howe, NW NW NW Sec. 20-2n-13w. T.D. 550 ft.; U.R.

Clyde Roach No. 1-A Green, SE SE SW Sec. 2-1-13w. T.D. 765 ft.; S.D.

Garfield County

Champlin Ref. Co. No. 1 Boehm, SW SW NE Sec. 4-24-8w. Drlg. 6,185 ft.

I.T.I.O. No. 1 Kechin, C SE SE sec. 17-22-5w. Drlg. 5,960 ft.

Garvin County

H. R. Hollenbach et al No. 1 Butterly, NE NE SE sec. 22-1n-1e. 3,218,000 ft. gas; drlg. 3,205 ft.; S.D.; repairs.

Hughes County

City of Holdenville No. 1 Fairgrounds, SE SE SE Sec. 13-7-8. Drlg. 1,200 ft.

Homer Doup et al No. 1 Bond, NE NE SW Sec. 7-7-9. Drlg. 1,300 ft.

Kay County

Louis Blosser No. 1 Rudolph, NE NE SW Sec. 27-29-1w. T.D. 3,500 ft.; W. O.S.T.

Kingfisher County

Hollenbach & Haley No. 1 Zerger, C SE SW Sec. 5-18-6w. Drlg. 2,086 ft.

Kiowa County

Anderson-Prichard Oil Corp. No. 1 Sch Ld., SE SE SE Sec. 14-6n-17w. Drlg. 1,932 ft.

Hughes & Reese No. 1 Fultz, SE SE SE Sec. 10-6-18w. T.D. 1,238 ft.; W.O.C.

Lincoln County

British-American No. 1 Markwell, C E½ E½ NE Sec. 26-12-4. Drlg. 5,040 ft.

Indian States No. 1 Bailey, NW NW NE Sec. 2-12-5. T.D. 4,238 ft.; flwd. 18 B. O. in 24 hrs.; died; to acd.

Noble County

H. R. Hollenback No. 1 Mathews, C SW NW Sec. 9-20-1. T.D. 3,915 ft.; lost cir.

Okfuskee County

Amerada No. 1 Conard, NE NW SW sec. 33-10-10. T.D. 4,065 ft.; S.D.

C. W. Titus No. 1 Lehmar, C NE NE Sec. 26-11-8. Deepened to 3,485 ft.; pmpd. 132 B.O. and 15 B.W. in 24 hrs.

Oklahoma County

Fain Drlg. No. 1 Little, SW SW NE sec. 28-11-3w. T.D. 7,006 ft.; D.&A.

Olson Oil No. 1 L. Vaneck, SE SW NW Sec. 4-12-3w. T.D. 6,776 ft.; P.B. 6,771 ft.; flwd. 12½ B.O. in 1 hr., 6% wtr.

Payne County

Sinclair-Prairie No. 1 McQuain, NE NW NE Sec. 22-19-1. Cd. 5,003-09 ft.; cg. ahd.

Pittsburg County

Supreme Oil Corp. No. 1 Hickey, NW SW NW sec. 4-2-15. T.D. 1,040 ft.; S.D.

Pontotoc County

Jack Lynch et al No. 1-A Parker, SW SW SE sec. 17-4-8. T.D. 4,572 ft.; P.B. 4,490 ft.; rip in csg.; P.B. 4,090 ft.; S.D.

H. Z. Moore No. 1 Payne, SE NW SE Sec. 16-4-4. T.D. 997 ft.; S.S.O.; S.D.

Union Dev. Co. No. 1-A Abbott, SW NW NE sec. 34-3-6. T.D. 2,013 ft.; S.D.

Pottawatomie County

Atlantic Ref. Co. No. 1-A McCurry, NW NE SW sec. 6-6-4. Pay 4,204 ft.; T.D. 4,209½ ft.; acd.; flwd. 368 B.O. in 24 hrs.; comp.

Hall & Briscoe No. 1 Merkle, NW NW SE Sec. 32-8-5. Rig.

Geo. L. Pace No. 1 Riley, NE NE SE Sec. 2-9-3. Drlg. 2,299 ft.

A. D. Spears No. 1 Vinson, SW NW SW Sec. 29-8-5. T.D. 2,710 ft.; S.D. for wtr.

Seminole County

Boetcher O. & G. No. 1 Morgan, SE NE NW Sec. 8-5n-7. Drlg. 2,218 ft.

Young & Newsom No. 1 Edgeman, SE SE SE sec. 17-7-6. Wilcox 4,378-80 ft.; T.D.; pmpd. 396 B.O.P.D.; putting on standard pmp.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. Drlg. 2,980 ft.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,172 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

C. M. Sheldon and Gardner Pet. Co. No. 1 Lee, NE NW SW sec. 2-4s-10e. Arb. 2,843 ft.; S.D. 3,455 ft.

Choctaw County

Clyde Ross et al No. 1 Haney, SE SE NW Sec. 21-7s-15. Set 8-in. at 920 ft.; to deepen.

Love County

Sinclair Prairie Oil Co. No. 1 Peabody NE cor. Sec. 35-6s-2w. Drlg. 6,805 ft.

Tillman County

Smith No. 2 Hammel, NE NW NW sec. 6-5s-15w. T.D. 2,200 ft.; fsg.

KANSAS

Week Ending August 27 (Descriptions are East unless marked otherwise)

Barton County

C. L. Carlock and Atlantic Ref. Co. No. 1 Demel, NE NW Sec. 30-17-13w. Set 12-in. 486 ft.; C.O.

Crown Pet. Corp. No. 1 Wolf, SE SW SE sec. 36-19-12w. T.D. 3,374 ft.; acd. S. 20 B.O.P.H.

Long & Johnson No. 1 Eveleigh, SW SW NE Sec. 3-18-14w. Bldg. rig.

Butler County

I. S. Dustin et al No. 1 Warner, SE NW NE Sec. 17-27-5e. O.W.D.D.; drlg. 2,070 ft.

Pryor & Lockhart No. 1 Lietzke, NE SW NW Sec. 24-28-7. U.R. 10-in. 1,510 ft.

Roy Ramsey No. 2 fee, NE NE sec. 28-16-3w. T.D. 2,531 ft.; D.&A.

Simpson Oil No. 1 Equitable Life Ins., SW Sec. 15-25-3. S.D. 2,940 ft.

Soloman & Alexander No. 1 Sawyer, SW NW SW Sec. 2-28-7. Drlg. 110 ft.

Tide Water Oil Co. No. 1 Noel, NE SW Sec. 18-23-5e. Drlg. 2,550 ft.

Cowley County

Barnsdall Oil Co. No. 1 Elliott, NE cor. Sec. 5-31-5. R.U.

Ben Gralapp et al No. 1-A Clark, NW NW NE Sec. 11-31-3e. Drlg. 470 ft.

McKnab et al No. 1 O'Neil, NW NW SE Sec. 27-32-3. Drlg. 2,095 ft.

Ellis County

C. B. Davis No. 1 Smith, SW NW NE Sec. 11-12-16w. T.D. 3,391½ ft.; swb. 160 B.O. in 12 hrs.

Ford County

Sinclair Prairie Oil Co. No. 1 Young, CSL NE sec. 34-27-21w. Viola 5,350 ft.; dolomite at 5,512 ft.; Wilcox 5,617 ft.; Arb. 5,629 ft.; T.D. 5,930 ft.; P.B. 5,025 ft.; flwd. 56 B.F. in 8 hrs.; S.I.

Graham County

Duwe & Farris and Atlantic Ref. Co. No. 1 Parker, C SE SW Sec. 29-6s-23w. Rotary rig.

Greenwood County

Z. Dunalp et al No. 1 Warren, NW NW SW Sec. 4-28-10. Drlg. 1,240 ft.
Fullerton et al No. 1 Bates, NE SW SE Sec. 32-26-11. Spd. and S.D.
Ward McGinnis No. 3 Smith, NW NE NE Sec. 10-24-13. Pay 1,662-65 ft.; est. 15 B.O.P.D.

Kingman County

Bunte Bros. No. 1 Shepard, SE SE SE Sec. 10-27-10w. T.D. 4,529 ft.; P.B. 4,086 ft.; swbg.

McPherson County

Marylyn Oil No. 1 Dixon, NW NE NW sec. 7-19-2w. S.D. 1,850 ft.

Marion County

Johnson et al No. 1-A Miltz, SW SW SW Sec. 24-17-4. Drlg. 1,900 ft.
Harwood Oil Co. No. 1 Kaufman, NW NW SE sec. 27-17-4. Fsg. 1,240 ft.

Mead County

Cragin, Reeuscher & Turner No. 1 Adams, NW NW SE sec. 22-34-30w. T.D. 200 ft.; R.U.R.
Pacific Midwest Oil No. 1 Rexford, NE SE SW Sec. 8-30-29w. S.D. 1,350 ft.

Ness County

Sinclair-Prairie No. 1 McKinley "A," SW NW Sec. 26-18-26w. Drlg. 4,000 ft.

Norton County

Vickers Pet. Co. No. 1 Bozarth, C SW SW Sec. 15-5-24w. Drlg. 3,865 ft.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW Sec. 18-10-2w. Drlg. 2,110 ft.

Pratt County

Champlin Ref. Co. No. 1 Elliott, SW NE Sec. 26-27-14w. Rig.

Reno County

A. Scherzer No. 1 Krey, SE SW Sec. 19-23-10w. M.I.M.

Rice County

Cities Service No. 1 Flora, SW SW NE Sec. 12-19-10w. Set 5-in. 3,063 ft.; shot; 1,600 ft. W.I.H. in 15 hrs.
Watchorn O. & G. Co. No. 1 Caldwell, NE SE NE Sec. 29-20-9w. Drlg. 450 ft.

Rooks County

Fred Haines et al No. 1 Dorr, SE SE SW Sec. 13-9s-16w. T.D. 3,515 ft.; 1,500 O.I.H. in 6 days.
J. J. Hall No. 1 Kruse, SE NE sec. 3-10-16w. T.D. 3,212 ft.; P.B. 3,121 ft.; pmpd. 161 B.O.
Producers Oil No. 1 Ham, SW NW sec. 25-7-19w. S.D. 1,800 ft.

Russell County

Geo. Hinkle No. 1 Kaufman, SE NW set 10-15-12w. Arb. 3,167 ft.; pulling lnr. 3,190 ft.
Stearns No. 1 Stielow, NW cor. sec. 32 11-14w. Drlg. 3,434 ft.

Saline County

Sullivan & Sidwell No. 1 Erickson, NE NE Sec. 28-16-3w. S.D. 1,750 ft.

Sedgwick County

Frank Hudson et al No. 1 Fulton, NE SE Sec. 35-28-1e. Drlg. 2,443 ft.

Stafford County

Atlantic Ref. Co. No. 1 Wise, NW cor. Sec. 13-24-14w. T.D. 3,822 ft.; 1,400,000 ft. gas and ½ B.O.P.H.
Newbold & Springrose No. 1 Walker, NE NE SW Sec. 24-24-12w. Drlg. 3,510 ft.
H. L. Rowley No. 1 Sittner, SE SE NE Sec. 35-21-12w. T.D. 3,575 ft.; 2,700 ft. O.I.H.
Stanolind O. & G. Co. No. 1 Curtis, SE cor. Sec. 31-21-12w. Drlg. 1,153 ft.

Sumner County

Cameron & Spencer No. 1 Frey, NW cor. Sec. 5-30-1e. R.U.

Thomas County

Ramsey Pet. Co. and John Mabee No. 1 Ryan, C NE SE Sec. 27-8-32w. Surf. csg.

Wabaunsee County

Fowler & Tague et al No. 1 Aye, NW SW NW Sec. 10-12-8. Drlg. 110 ft.

Woodson County

Joe Nathan No. 1 Ellis, NW NW SE Sec. 35-25-14. T.D. 1,552 ft.; U.R.

ARKANSAS

Calhoun County

C. E. Murdock No. 1 Southern Kraft Corp., SE cor. NW NW sec. 17-14-13. Drlg. sd. 500 ft.

Cleveland County

W. E. Allaum, Tr., No. 1 Moore Est., SW cor. SE NW Sec. 34-9-10. S.D. sdy. sh. 3,328 ft.

Columbia County

Atlantic Ref. Co. No. 1 Baker, C SE NW Sec. 13-17-20. Top Tr. Pk. 4,138 ft.; T.C.U. 5,363 ft.; drlg. rd. sdy. sh. 5,942 ft.
Atlantic Ref. Co. No. 1 Harrington, C SW NW Sec. 14-17-20. Drlg. rd. sdy. sh. 6,014 ft.
Pet. Finance Co. No. 1 Baker, C SW NW Sec. 13-17-20. Drlg. rd. sdy. sh. 6,270 ft.
Standard Oil Co. of La. No. 1 T. Crumpler, sec. 15-17-19. Cg. 7,447 ft.; top por. oolitic L. 7,380 ft.; flwd. 34 B.P.H. fluid; ¾-in. ck.; 33% S.W.; C.P. 1,100 lbs.; T.P. 730 lbs.; killed well and set cmt. retainer 7,395 ft. and sqzd.; T.D. 7,500 ft.; W.O.C.
Standard Oil Co. No. 1 E. D. Harris, Drk.
Standard Oil Co. of La. No. 1 J. L. Warren, Sec. 18-16-22. Set 13⅜-in. csg. 197 ft.; W.O.C.
G. H. Vaughn No. 1 Garrett, C NE SE Sec. 14-17-20. T.C.U. 5,365 ft.; drlg. rd.&gr. sh. 5,474 ft.

Craighead County

Tannark, Inc., No. 1 Ruby M. Martin, 580 ft. N line, 80 ft. E line, sec. 35-14n-3e. M.I.C.T. 1,754 ft.

Crittendon County

Stanley Oil Corp. No. 1 Danner hrs., O.W.W.O.; old T.D. 2,790 ft.; rng. 4-in. csg. to set on btm.; will use 1 jt. perf. csg. 3,219-3,176 ft.; T.D. 3,351 ft.; rng. 4-in. csg.

Little River County

Barbee et al No. 1 Ada Mills, SE cor. SW NW Sec. 18-12-29. R.U.
Clark et all No. 1 Strawn, SW cor. SE Sec. 20-10-32. 10-in. csg. 63 ft.
M. E. Sanderson No. 1 Pinny; O.W.W.O.; reported abd. 1,300 ft.; NE cor. NE SW sec. 6-13-30. S.D. 1,324 ft.
Joe G. Straham et al No. 2 Dierks Lbr. Co. Top L. 2,425 ft.; drlg. 3,290 ft.

Lonoke County

J. F. Russell No. 1 J. T. Gunter, SE cor. Sec. 17-5-10. Drlg. 1,206 ft.

Miller County—Rodessa

F. W. Burford No. 1 H. C. Mitchell, NW cor. NW NE Sec. 11-20-28. Comp.; 300 B.P.D.; 12/64-in. ck.; T.P. 500 lbs.; C.P. 1,250 lbs.; T.D. 6,225 ft.
Gerhig No. 2 Mitchell, SW SE Sec. 2-21-28. Drlg. sh.&L. 4,615 ft.
Red River Valley Oil Co. No. 1 Beck, Sec. 34-15-26. T.D. 3,008 ft.; reperf. 2,786-2,808 ft.; set pkr. 2,806 ft.; swbg. S.W.; S.S.O.

Nevada County

Paul D. Bowlen No. 1 Stocks, C NW SE Sec. 9-15s-22w. Cd. 2,042-60 ft.; S.O.; drlg. 2,807 ft.
Bruce E. Wallace No. 2 Haynie, SE cor. SE NE sec. 5-14-21. Sdy. sh. 1,194-1,204 ft.; tstd. mud, S.W. and oil 1,198-1,214 ft.; 30 min.; W.O.; T.D. 1,214 ft. set 6-in. csg. 1,198 ft.; swbd. est. 10 bbls. oil; comp.; pmp. 50 B.P.D.; 20% S.W.; T.D. 1,214 ft.

Pulaski County

Coker Oil Corp. No. 1 Stone, sec. 36-3n-11w. S.D. 905 ft.
A. L. Kitselman No. 2 A. L. Kitselman, Jr., SE SE SW Sec. 2-1s-13e. Drlg. hd. gr. sh. 3,380 ft.

Union County—Schuler

Atlantic Ref. Co. No. 2 Dumas, SE cor. NE NW Sec. 21-18-17. Set 16-in. csg. 152 ft.
Crescent Drlg. Co. No. 1 Lewis, SE SW Sec. 16-18-17. Drlg. rd. sdy. sh. 6,569 ft.
Crescent Drlg. Co. No. 1 Sewell, SW cor. NE NE Sec. 12-18-18. Set 13⅜-in. csg. 116 ft.; D.S. stk. 640 ft.
Delta Drlg. Co. No. 1 Powledge, SW cor. NW NW Sec. 21-18-17. R.U.
E. M. Jones No. 1 Gallagher, Lot 4, NW SW Sec. 18-18-17. O.W.W.O.; old T.D. 5,929 ft.; drlg. rd.&gr. sh. 6,050 ft.
E. M. Jones No. 1 C. H. Murphy, NW cor. Lot 6, NW sec. 19-18-17. O.W.D D.; cd. to 7,789 ft.; top Jones sd. 7,628 ft.; top L. 7,750 ft.; ran Schlumberger and abd.
Lion Oil Ref. Co. No. 2 Clarence, Lot 1, SW Sec. 7-18-17. Drlg. rd.&gr. sh. 4,402 ft.
Lion Oil Ref. Co. No. 1 Dee, sec. 17-18-17. Comp.; 1,040 B.P.D.; 32/64-in. ck.; T.P. 600 lbs.; C.P. 1,200 lbs.; perf. 7,560-80 ft.; T.D. 7,665 ft.
Lion Oil Ref. Co. No. 2 Dee, SW cor. SE NW Sec. 17-18-17. Drlg. rd.&gr. sh. 4,690 ft.
Lion Oil Ref. Co. No. 2 Marcus, 330 ft. SE cor. Lot 3, SE sec. 18-18-17. Top Jones sd. 7,521 ft.; top L. 7,621-89 ft.; set 7-in. csg. 7,713 ft.; T.D. 7,720 ft. comp.; 290 B.P.D.; 10/64-in. ck.; T.P. 750 lbs.; C.P. 900 lbs.; perf. 7,569-89 ft.; T.D. 7,720 ft.
Lion Oil Ref. Co. No. 3 Marcus, SW cor. Lot 5, NW Sec. 18-18-17. Comp.; 25 B.P.H.; 16/64-in. ck.; T.P. 790 lbs.; C.P. 1,100 lbs.; T.D. 7,725 ft.
Lion Oil Ref. Co. No. 4 Marcus, NW cor. Lot 3, SW Sec. 18-18-17. Top Jones sd. 7,543 ft.; top L. 7,638 ft.; 7-in. at 7,727 ft.; T.D. 7,735 ft.
Lion Oil Ref. No. 4 Marine, NE cor. SE SE Sec. 17-18-17. Drlg. 500 ft.
Lion Oil Ref. Co. No. 2 Marvin, SE cor. Lot 1, SW Sec. 7-18-17. Drlg. rd. sdy. sh. 7,335 ft.
Lion Oil Ref. No. 6-A Morgan, SE cor. Lot 1, SW Sec. 18-18-17. Drlg. 4,420 ft.
Lion Oil Ref. Co. No. 1 Natl., NW cor. NE SW Sec. 17-18-17. Drlg. 7,440 ft.
Lion Oil Ref. Co. No. 2 Nelson, Lot 8, Sec. 18-18-17. Drlg. 6,720 ft.
Lion Oil Ref. Co. No. 1 H. P. Sewell, NE cor. Lot 4, NW sec. 18-18-17. Set 10¾-in. csg. 1,902 ft.; drlg. 6,875 ft.
Marine Oil Co. No. 2 J. H. Calloway, NW cor. E½ SE NE sec. 13-18-18. Set 16-in. csg. 142 ft.; drlg. 6,612 ft.
Phillips Pet. Co. No. 2 Gan, NE cor. SE NE Sec. 18-18-17. 10¾-in. csg. 1,725 ft.
Phillips Pet. Co. No. 1 Milling, SE cor. S½ Lot 4, SW Sec. 18-18-17. R.U.
Phillips Pet. Co. No. 1 Miller, NE cor. Lot 4, SW Sec. 18-18-17. Top L. 7,635 ft.; T.D. 7,734 ft.; 7-in. 7,708 ft.
Phillips Pet. Co. No. 1 Sewell, SW cor. Lot 5, SW Sec. 7-18-17. Top L. 7,632 ft.; T.D. 7,725 ft.; 7-in. 7,700 ft.
Phillips Pet. Co. No. 2 Sewell, Lot 3, SW Sec. 7-18-17. 10¾-in. csg. 1,721 ft.
Phillips Pet. Co. No. 3 Sewell, Lot 5, SW Sec. 7-18-17. 10¾-in. csg. 1,733 ft.
Phillips Pet. Co. No. 4 Sewell, Lot 4, SW Sec. 7-18-17. 10¾-in. csg. 1,738 ft.
Roberts & Murphy No. 2 Justiss, Set 16-in. 120 ft.; 10-in. 1,782 ft.
Roberts & Murphy No. 2 Leona, NW cor. Lot 6, SW Sec. 7-18-17. Drlg. 5,677 ft.

Union County—Other

J. R. Lockhart No. 1 Raulston, sec. 12-17-14. Cd. oil sd. 3,160-75 ft.; D.S.T. 3,172-75 ft.; rec. drlg. fluid and S.W.; cd. 3,175-85 ft.; S.O.; salty taste; set 7-in. csg. 3,077 ft.; perf. 3,002-07 ft.; tstd. 2,750 ft. S.W.; reperf. 2,967-73 ft.; blew wild; est. 500 bbls. S.W.; P.B. 2,700 ft.; drld. out cmt. 2,980 ft.; perf. 2,968-76 ft.; set pkr. 2,960 ft.; tstd. 1,500,000 ft. gas; connecting up separator 2,980 ft.
J. R. Lockhart No. 2 Raulston, NE cor. SE Sec. 12-17-14. 10-in. 108 ft.; drlg. 1,394 ft.
Joe Modisette et al No. 2 Union Saw mill Co., sec. 8-18-12. T.D. 3,354 ft.; S.W. sd. 3,554-67 ft.; ran Schlumberger and set 9⅝-in. csg. 3,009 ft.; T.D. 6,506 ft.; hd. dense L.; D.&A.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Fleming, C NW NW Sec. 18-16-9. Cg. 5,329 ft.

Bossier Parish

W. M. Chambers No. 1 Thomas, SE cor. Sec. 10-22-11. S.D. 635 ft.
C. H. French No. 1 Weaver, sec. 14-19-11. W.O.C. 377 ft.
Premier Inv. Co. No. 1 Community Corp., sec. 22-19-11. S.D. 310 ft.
Premier Inv. Co. No. 4 Connell. Comp.; pmp. 20 B.P.D.; T.D. 312 ft.
Premier Inv. Co. No. 1 McDade, SE SW NE sec. 28-19-11. Tstd. est. 1,000,000 ft. gas; S.I.; T.D. 2,374 ft.; top ooilitic L. 2,345 ft.; set 5½-in. csg. 2,300 ft. without cmt.; set 7-in. csg. 2,026 ft. without cmt.; tstd. est. 1,000,000 ft. gas, S.S.O.; W.O.S.R. 2,384 ft.
Sloan, Lloyd et al No. 1 Sherrill, sec. 12-19-12. T.D. 780 ft.; set 5½-n. 778 ft.; trtd. with 1,000 gal. acd.; tstd. dry; D.&A. 780 ft.
J. B. Stovall et al No. 2 Ark. Fuel Oil Co. fee, NE SE Sec. 15-19-11. Set 6-in. 168 ft.; W.O.S.R. 372 ft.
J. B. Stovall et al No. 3 Ark. Fuel Oil Co. fee, NE SE Sec. 15-19-11. Drlg. sh. 150 ft.
Triangle Drlg. Co. No. 1-A R. O. Roy, SW cor. NW Sec. 18-17-11. Tstd. S.W. S.S.O. 3,125 ft.; P.B. 3,093 ft. and perf. 3,080-85 ft.; recmtd. csg.; T.D. 3,093 ft.; old T.D. 3,148 ft.

Caddo Parish

J. W. Bailey No. 2 Caddo Lvy. Bd., SE cor. Sec. 36-21-16. R.U.
J. E. Carroll et al No. 1 Stiles, SW cor. NE Sec. 17-21-16. Set 6-in. csg. 1,481 ft.; W.O.C.
Carney et al No. 1 Hart; O.W.W.O. Old T.D. 2,372 ft.; C.O. 2,372 ft.
S. H. Cassidy No. 1 Caddo Lve. Bd. Drlg. 400 ft.
Paul Cooper et al No. 1 Stiles, SE cor. NE NW Sec. 33-21-16. Drlg. 1,440 ft.
Tony DeGrazier No. 1 Welsh, NE cor. Sec. 3-20-16. 7-in. csg. 925 ft.; T.D. 935 ft.
Falcon Oil Co. No. 2 Glassell-Youree, SE cor. Sec. 26-20-15. Tstg.; T.D. 2,306 ft.
M. M. Ferrell No. 1 Dyer, Sec. 10-20-16. Drlg. sh. 700 ft.
C. G. Gibbons No. 1 Helpman, SW cor. Sec. 16-21-16. Drlg. 550 ft.
J. T. Humphrey No. 2 Caddo Lve. Bd. Sec. 26-21-16. Cg. 940 ft.
McClanahan et al No. 1 Muslow, NE NW sec. 31-21-15. Set 10¾-in. csg. 40 ft.; S.D.
E. W. McGoldrick No. 9 Muslow, SW cor. Sec. 32-21-15. T.D. 1,323 ft.; 6⅝-in. csg. 1,318 ft.
F. W. Martin and Superior Oil Corp No. 1 Querbes, Sec. 8, Reg. Sec. 20-17-13. R.U.
Midfield Oil Co. No. 7 Muslow, Sec. 6-20-15. Recmtd. 7-in. 1,324 ft.; T.D. 1,560 ft.
J. Ober & Sons No. 1 fee, SE cor. sec. 36-21-16. Drlg. ch., rk. 1,495 ft.
Olis, Inc., No. 1 Cazaux, sec. 10-16-13 Drlg. sdy. sh. 3,097 ft.
Papadokis & Poppas No. 1 Spell. Set 7-in. csg. 1,395 ft.; drlg. 1,530 ft.
J. E. Sedberry No. 1-A Dickinson, SW cor. sec. 10-19-14. Drlg. 2,410 ft.
Southern Star Pet. Corp. No. 1 Muslow SE NW sec. 17-20-15. O.W.W.O.; old T.D. 1,500 ft.; set 8-in. csg. 1,350 ft.; T.D. 1,860 ft.; W.O.S.R.
Southern Star Pet. Corp. No. 2 Muslow NE cor. SE NW sec. 17-20-15. Drlg. ch. rk. 1,485 ft.
Nat Wiseman No. 4 Stiles. T.D. 1,035 ft.

Caldwell Parish

E. T. Oakes et al No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e. W.O.C. 480 ft.

Claiborne Parish

Harry Fotiades No. 1 T. H. Lloyd, C SE SE Sec. 10-20-5. T.D. 1,600 ft.; 10¾-in. csg. 716 ft.
Harry Fotiades No. 2 Rogers, C SW NW Sec. 13-20-5. Drlg. sh.&L. 4,546 ft.
J. H. Henry No. 1 McDonald, NE cor. SE Sec. 3-20-5. Drlg. L.&sh. 5,279 ft.
Magnolia Pet. Co. No. 4 Sallie Lloyd, SE cor. Sec. 2-20-5. Drlg. sh.&L. 4,860 ft.
W. H. North No. 1 Lowery, C NE NW Sec. 14-20-5. W.O. 5,327 ft.
Oakes et al No. 1 Kilgore, NE cor. SE sec. 28-21-15. D.S.T. 4,188-4,225 ft.; tstd. dry in 5 min.; set 5¾-in. csg. 5,290 ft.; T.D. 5,313 ft.; set perf. lnr tstd. dry; washed with oil and acdz with 2,000 gal. and 150 bbls. oil; swb dry; think csg. seat gave away; recmt. csg.; cor. depth 5,270 ft.; cor. T.D. 5,357 ft.; re-acdz.
H. O. Olson No. 1 L. L. Lowery, R.U. S.D.
Rodessa O. & R. Co. No. 1 Lloyd, Sec. 10-20-5. Comp.; 30 B.P.H.; open tbg.; 5½-in. csg. 5,345 ft.; T.D. 5,362 ft.
Sklar Oil Corp. No. 1 Lowery, C SW SW Sec. 14-20-5. W.O. 5,340 ft.
Texas Canadian Oil Co. No. 1-B Lowery, C NE NE Sec. 14-20-5. Comp.; 45 B.P.H.; ¾-in. ck.; T.P. 150 lbs.; C.P. 475 lbs.; acdz. 3,000 gal.; T.D. 5,296 ft.
Texas Canadian Oil Co. No. 1 Patton, C SW SW Sec. 12-20-5. Set 7-in. csg. 5,282 ft.; comp.; 55 B.P.H.; ¾-in. ck.; T.P. 100 lbs.; C.P. 450 lbs.; T.D. 5,282 ft.
Union Prod. Co. No. 1 Hodges, Sec. 6-19-15. Drlg. L.&sh. 4,767 ft.; old T.D. 4,310 ft.

Concordia Parish

Edw. Addy et al No. 1 Posternack, NW SW Sec. 49-8n-9e. Arng. D.S.T. 1,382 ft.
Morrison & Co. No. 1 Winston, sec. 43 7-9e. Whipstock 2,000 ft.; drlg. 3,888 ft.; old T.D. 4,200 ft.

De Soto Parish

S. S. Alexander No. 1-A Stoll, sec. 5-12-16. Cg. 1,846 ft.
G. H. Collins et al No. 2 Joiner, sec. 28-11-12. W.O.C. 2,925 ft.
Paul Miller et al No. 2 Jal Drlg. Co., NE Sec. 5-11-11. Cg. 2,820 ft.
Petroleum Heat & Power Co. No. 2 Kavanaugh, NE cor. NW SW sec. 7-11-11. Tstd. dry 2,874 ft.; W.O.
Pet. Heat & Power Co. No. 1 Rives, sec. 20-12-11. S.D. 3,620 ft.
A. L. Sutton No. 1 Frost Lbr. Co., C NE SE Sec. 35-11-15. R.U. and S.D.

Grant Parish

C. R. Bowers No. 1 Harrison Est., sec. 21-8-5. Drlg. sdy. sh. 1,260 ft.
Rogers Prod. Corp. No. 3-A Holmes, SW cor. Sec. 17-9n-1e. Set 6-in. csg. 1,602 ft.; bttm. jnt. perfd.; T.D. 1,602 ft.; comp.; 40 B.P.D.

La Salle Parish

O. L. Black No. 1 Tullas. Set 6-in. csg. 1,493 ft.; T.D. 1,495 ft.
Luther Terrell et al No. 1 Barnett, C SW SW Sec. 19-9-1e. R.U.

Madison Parish

Continental Oil Co. No. 1 Singer Mfg Co., C NE NW Sec. 3-15-11e. Ch. rk. 650-2,227 ft.; igneous 2,227-2,508 ft.; drlg. sh. 3,254 ft.

Natchitoches Parish

Jos. E. Popkins No. 1 Peavy Lbr. Co., sec. 36-7n-9w. S.D. 510 ft.

Red River Parish

J. C. Prine No. 2 Haynes, SW cor. Sec. 20-13-10. Set 10-in. csg. 85 ft.; 8¾-in. 1,128 ft.; tstg. 1,398 ft.
H. D. Rogers No. 3 Long Bell Lbr. Co., sec. 30-13-9. Set 6-in. csg. top Nacatoch 1,079 ft.; S.W. and abd. 1,120 ft.
H. D. Rogers No. 1 Raven, SW cor. Sec. 20-13-9. R.U.

Sabine Parish

Addison & Peterson No. 1 Dew, SE cor. SW SE Sec. 22-8-11. S.D. 1,890 ft.; repair rig.
LeGrande & Brown No. 1 Tatum, NE cor. NW NE Sec. 17-8-13. R.U.
W. L. McClanahan No. 1 Frost Lbr. Co., sec. 22-9-13. D.S.T. 2,927-3,028 ft.; tstd. est. 1,000,000 ft. gas and 9 jts. mud;

¼-in. ck.; blew out 4,745 ft.; S.W., mud and gas; cd. hd. sh.&L. 4,745-54 ft.; tstd. S.O. and used 3,000 gal. acd.; swbg. to test; T.D. 1,616 ft.

Major Oil Co. No. 4 Bowman-Hicks, C NW SW Sec. 7-7-12. Comp.; 50 B.P. D.; T.D. 2,366 ft.

Major Oil Co. No. 1 Loring, C SE NW Sec. 21-7-13. Drlg. sh. 1,710 ft.

Harry N. Morris No. 1-B Irving & Bishop, C SW NW sec. 18-7-12. Aczd. with 2,000 gal.; tstd. dry 2,690 ft.; T. D. 2,837 ft.; D.&A.

Hunter Co. No. 6 Bowman & Hicks, S.D.; W.O. 2,178 ft.

W. L. Posey No. 2 Hale, SE cor. NE NW Sec. 12-7-13. Drlg. ch. rk. 2,510 ft.

Richards & Holloway No. 1 Hale, C NE NE Sec. 12-7-13. R.U.

Richards & Holloway No. 1 Sabine Lbr. Co., NE NW Sec. 7-7-12. O.W.W.O.; drlg. 2,710 ft.

C. R. Schuster No. 1 Mary Garcia, NE cor. NW SE Sec. 15-7-13. T.D. 2,603 ft. will P.B. 2,590 ft.

H. M. Sneed No. 1 Leone, 330 ft. S line, 400 ft. W line, NW SE sec. 8-7-13. R.U.

Tropical Oil Co. No. 1 Long Bell Lbr. Co., Sec. 5-8-13. T.D. 2,178 ft.; S.D.; W.O.

Voline Oil Co. No. 1 First Natl. Bnk., sec. 18-7-12. Top ch. 2,460 ft.; D.&A.; T.D. 2,957 ft.

Lee Whitehurst No. 1 First Natl. Bnk. of Shreveport, sec. 14-7-13. Set 10-in. 82 ft.; set 7-in. csg. 2,152 ft.; S.O. & S.W.; cmtd. on bttm; used 2,000 gal. acd.; acdzd. 3,000 gal.; comp.; 200 B. P.D.; pmpg.; old T.D. 2,597 ft.; P.B. T.D. 2,587 ft.

Zwolle Synd. No. 1 Mansfield Lbr. Co., Sec. 8-7-19. Drlg. L.&sh. 4,005 ft.

Webster Parish

Hunt Oil Co. No. 8 Babb, sec. 13-21-10 Top Holloway sd. 5,642 ft.; set 9⅝-in. csg. 5,627 ft.; T.D. 5,980 ft.; Holloway sd. tstd. dry; drlg. sh. 8,474 ft.

Hunt Oil Co. No. 2 Bodcaw Lbr. Co., NE cor. Sec. 33-21-10. 2nd Holloway sd. 5,720-25 ft.; perf. 5,705-30 ft.; 9⅝-in. csg. 5,953 ft.; tstg.

Hunt Oil Co. No. 3 Bodcaw-Stewart, C NW SW Sec. 34-21-10. Holloway sd. 5,822-46 ft.; 9⅝-in. csg. 5,951 ft.; perf. 5,815-50 ft.; tstg. 5,956 ft.

Hunt Oil Co. No. 2 Davis Unit, C NW NW Sec. 24-21-10. R.U.

Hunt Oil Co. No. 20 Hope, C NE NW sec. 24-21-10. Top Holloway sd. 5,596-5,604 ft.; set 9⅝-in. csg. 5,580 ft.; did not test Holloway sd.; drlg. sh. 8,318 ft.

Hunt Oil Co. No. 21 Hope, C NE SW Sec. 13-21-10. Drlg. sh.&L. 4,286 ft.

Hunt Oil Co. No. 1 Pardee, sec. 24-21-10. Set 13⅜-in. csg. 797 ft.; drlg. sh. 6,763 ft.

Hunt Oil Co. No. 1 Sandifer, C NE NE Sec. 4-20-10. No Holloway sd. yet; set 9⅝-in. csg. 5,730 ft.

Magnolia Pet. Co. No. 4 Cox, sec. 23-21-10. W.O.C. 5,819 ft.; tstd. dry 5,795-5,810 ft.; shot formation 5,795-5,805 ft. with 10 qts. nitro and bailed 8 bbls. oil with gas-lift in 24 hrs.; T.D. 5,819 ft.; S.D.; W.O.

Magnolia Pet. Co. No. 1 Merritt Unit, C SW NW Sec. 14-21-10. Drlg. L.&sh. 5,120 ft.

Magnolia Pet. Co. No. 1-C Pardee, C NW NE Sec. 17-23-11. Rmd. and set 9⅝-in. csg. 5,920 ft.; T.D. 6,025 ft.

Midstates Oil Corp. No. 1 Welori Lbr. Co. Unit, NE cor. NW sec. 3-20-10. Drlg. sh.&L. 4,279 ft.

Harry Morgan No. 2-A Hope, C SE SW Sec. 24-21-10. Drlg. sh. 7,189 ft.

North American Oil Consol. Co. No. 1 Barrow, C NE NW sec. 21-21-10. Top Trv. Pk. 5,889 ft.; set 9⅝-in. 5,945 ft.; no Holloway sd.; "O" sd. 8,555-73 ft.; Bodcaw sd. 8,662-8,700 ft.; set 7-in. csg. 8,665 ft.; T.D. 8,725 ft.

Ohio Oil Co. No. 1 W. Cox, Acct. 2, SE cor. SW Sec. 15-21-10. R.U.

Ohio Oil Co. No. 4 Cox, Acct. 2, C SW Sec. 15-21-10. Comp.; 387 B.P.D. dist. and 5,000,000 ft. gas; ¾-in. ck.; C.P. 2,400 lbs.; T.P. 2,200 lbs.; T.D. 8,602 ft.

Oliphant Oil Corp. No. 1 Fred Banks, C SE NW Sec. 2-20-10. R.U.

Oliphant Oil Corp. No. 1-B Stewart, C NW NE Sec. 5-20-10. Top Tr. Pk. 6,117 ft.; Holloway sd. 6,160-67 ft.; 9⅝-in. csg. 5,884 ft.; T.D. 6,203 ft.

Oliphant Oil Corp. No. 2-B Stewart, C NW NW Sec. 4-20-10. Straightening hole 2,211 ft.

Union Prod. Co. No. 2 Stewart, SW SW Sec. 28-21-10. R.U.

Hoard
Exploration Co.
Seismograph Surveys
618 Esperson Bldg.
Houston - - Texas

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 2 J. A. Brookshire, sec. 66-12s-3e. T.D. 7,902 ft.; 6-in. csg. 7,902 ft.; tstd. S.W. and sd. perf. csg. 7,892-95 ft.; tstd. oil and S.W.; sqzd. off perf.; reperf. csg. 7,-889-93 ft.; tstd. S.W. and oil; killed well.

Continental Oil Co. No. 1 Franciol, sec. 67-12s-3e. Drlg.

Anse La Butte—St. Martin Parish

Louisiana-Crusader No. 3 Central Oil Co., sec. 86-9s-5e. S.D. 421 ft.

Mary G. Thomas No. 1 J. A. Broussard. Sec. 117-9s-5e. Top salt 1,788 ft.; T.D. 1,792 ft.; abd.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 Wax Bayou, sec. 21-16s-12e. Drlg. sh. 9,495 ft.

Baton Rouge—East Baton Rouge Parish

Wm. Helis et al No. 2-A La. State University, Sec. 66-7s-1w. Drlg. sh. 3,-720 ft.

Wm. Helis No. 1 Harry Nelson, sec. 36-7s-1w. Cd. oil sd. 6,477-6,500 ft.; T.D. 7,710 ft.; D.P. stk.; P.B.; sdtrkd.; drlg. sd. 4,015 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 4 State-Bay St. Elaine, Sec. 19-23s-20e. Drlg. 415 ft.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 7 A. Wilberts, Sec. 66-9s-11e. Top salt 6,278 ft.; T.D. 6,392 ft.; abd.

Bayou Choctaw—West Baton Rouge

La. Crusader Oil Co. No. 3 Schwing, sec. 29-8s-11e. Drlg. sh. 7,425 ft.

Standard Oil Co. et al No. 1 Marley Cypress Co., Sec. 29-8s-11e. T.D. 7,473 ft.; fsg.

Bayou Des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 Gheens Realty Co., sec. 56-15s-20e. T.D. 7,021 ft.; D.P. stk.; P.B. to 5,000 ft.; sdtrkd. at 5,000 ft.; drld. to 6,984 ft.; 9⅝-in. csg. 6,982 ft.

Amerada Pet. Corp. No. 2 St. Charles Ld. Co., sec. 13-15s-20e. T.D. 8,500 ft.; 9⅝-in. csg. 8,518 ft.; drlg. wtr. sd. 8,947 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 4 State-Terrebonne Bay, Sec. 19-23s-20e. Loc.

Texas Co. No. 29 State, sec. 17-23s-20e. Rig.

Texas Co. No. 53 State, Sec. 18-23s-20e. Drlg. sh. 3,989 ft.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 23 School Ld., sec. 16-14s-13w. T.D. 5,786 ft.; 7-in. csg. 5,323 ft.; tstd. S.W.; P.B. to sidetrack; T.D. 2,959 ft.; flwd. oil and sanded up; S.D.

Magnolia Pet. Co. No. 22 Cameron Meadows, sec. 21-14s-13w. 9⅝-in. csg. 4,242 ft.; T.D. 6,367 ft.; P.B. 3,830 ft.; perf. csg. 3,777-97 ft.; flwd. 80 bbls. fluid, 80% S.W.; killed well; perf. csg. 3,782-90 ft.; W.O.S.R.

Magnolia Pet. Co. No. 23 Cameron Meadows, sec. 21-14s-13w. Drlg.

Charenton—St. Mary Parish

Kinsley Oil, Inc., No. 2 Hertel, sec. 21-13s-9e. Drlg. sh. 300 ft.

Pan American Prod. Co. No. 9 Laws Realty Co., sec. 31-13s-10e. T.D. 7,209 ft.; P.B. 4,000 ft.; T.D. 6,762 ft.; run electrical survey.

Pan American Prod. Co. No. 9 Veeder, Sec. 11-13s-9e. T.D. 1,841 ft.; 7-in. csg. 1,830 ft.; tstd. S.W.; dpnd. to 1,905 ft.; tstd. S.W.; P.B. 1,836 ft.; swbg.

Pan American Prod. Co. No. 10 Veeder, Sec. 11-13s-9e. Loc.

Creole—Cameron Parish

Superior Oil Co.-Pure Oil Co. No. 3 State-Gulf of Mexico. T.D. 2,458 ft.; S.D. acct. of storm.

Darrow—Ascension Parish

Darrow Oil Co. No. 1 Dennis, sec. 68-10s-2e. T.D. 5,750 ft., stky. sh., S.D.

Humble O. & R. Co. No. 1-B Community, Sec. 49-10s-2e. T.D. 7,930 ft.; P.B. 4,-416 ft.

Humble O. & R. Co. No. 14 Gumbel, Sec. 33-10s-2e. T.D. 7,017 ft.; run electrical survey.

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. S.D. 2,523 ft.

Southern Drillers, Inc. (D. J. Simmons) No. 1 August Berteau, sec. 55-10s-2e. T.D. 7,744 ft.; washing to bttm.; to run csg.

Fausse Point—Iberia Parish

Texas Co. No. 5 State Lake-Fausse Point, Sec. 35-11s-8e. Driving piling.

Four Isle—Terrebonne Parish

Texas Co. No. 10 State, sec. 24-21s-16e. Drlg. sh. 8,473 ft.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 1 Kuntz, sec. 10-17s-15e. T.D. 10,557 ft.; make D.S.T.

Garden Island—Plaquemines Parish

Texas Co. No. 28 State, sec. 100-23s-38e. Drlg. sd. 6,629 ft.

Grand Bay—Plaquemines Parish

Gulf Ref. Co. No. 2 Grand Prairie Lve., sec. 48-20s-18e (1,320 ft. W of No. 1). Drlg. sh. 2,939 ft.

Gulf Ref. Co. No. 1 State-QQ, Sec. 6-20s-19e. Loc.

Hackberry—Cameron Parish

Berry Oil Corp. No. 1 Cora E. Lyons, sec. 28-12s-10w (West Hackberry). T.D. 3,535 ft.; 7-in. csg. 3,445 ft.; perf. csg. 3,375-82 ft.; swbg.; to test.

Darryl Davis No. 1 Bickford, sec. 39-12s-10w. T.D. 2,873 ft.; top sh., L., and brkn. cap; S.O. 2,792 ft.; 5-in. csg. 2,778 ft.; T.D. 2,873 ft.; cleaned hole; set cmt. retainer at 2,765 ft.; W.O.C.

Gulf Oil Corp. No. 1 Noble, sec. 22-12s-10w. T.D. 3,201 ft.; P.B. 2,830 ft.; W. O.C.; to sdtrk. jnk.; fsg.; P.B. 2,830 ft.; trying to sdtrk.; stk. D.S.; fsg.

Stanolind O. & G. Co. No. 1 Carter, sec. 22-12s-10w. R.U.

Stanolind O. & G. Co. No. 1 Dorisse Kough, sec. 28-12s-10w. T.D. 3,060 ft.; 7-in. csg. 3,046 ft.; I.P. 244 bbls. fluid, 3% S.W.

Superior Oil Co. No. 3 Benson Vincent, Sec. 30-12s-10w. T.D. 6,632 ft.; run 7-in. csg. 6,583 ft.; tstg.

Texas Co. No. 24-B State, sec. 12s-9w. T.D. 8,052 ft.; sdtrkd.; drlg. sd. rk. 7,-991 ft.

Union Sulphur Co. No. 7 Hanzen, sec. 13-12s-10w. Drlg. sd. 1,670 ft.

Horseshoe Bayou—St. Mary Parish

Texas Co. No. 2 State, sec. 37-17s-9e. Cg. sdy. L. 7,640 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1-A Roane Sugar Co., sec. 38-13s-9e. T.D. 10,645 ft.; milling to sdtrk. stk. D.P.; sdtrkd. 10,253 ft.; drlg. sd. 10,600 ft.

Jefferson Island—Iberia Parish

Texas Co. No. 1 State-Lake Peigneur Twp. 12s-5e. Top salt 3,642 ft.; base salt 3,741 ft.; drlg. sh.&L. 4,354 ft.

Jennings—Acadia Parish

Frank Bennett No. 1 Freeman & Carden, Sec. 45-9s-2w. T.D. 5,595 ft.; S.D.

W. T. Burton No. 6 Roboria, sec. 41-9s-2w. T.D. 6,797 ft.; 7-in. csg. 6,721 ft.; fsg. tbg.

Cosmo Pet. Co. No. 1 Jennings-Clement, sec. 46-9s-2w. T.D. 3,552 ft.; sdtrkd.; T.D. 3,095 ft.; S.D.

Frio Oil Co. No. 2 Gulf fee, sec. 45-9s-2w (NW flank). 10¾-in. csg. 1,512 ft. drlg. sh.&L. 5,189 ft.

Frio Oil Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 6,687 ft.; P.B. 4,300 ft. T.D. 6,170 ft.; twisted off drill collar; fsg.

Glassell & Glassell No. 5 Trushell, sec. 42-9s-2w. T.D. 7,250 ft.; 7-in. csg. 7,-153 ft.

Glassell & Glassell No. 6 Trushell, sec. 42-9s-2w. R.U.

Guaranty Oil Co. No. 1 Rowson & Haber, Sec. 46-9s-2w. R.U.

Gulf Oil Corp. No. 40 Arnaudet, sec. 48-9s-2w. R.U.

Iles Pet. Corp. No. 2 Jennings-Heywood, sec. 41-9s-2w. 6-in. csg. 1,700 ft.; cg. sh. 2,040 ft.; I.P. 400 B.P.D.; ½-in. ck.

W. S. Noble et al No. 1 Ed Prather, sec. 45-9s-2w. T.D. 7,456 ft.; 7-in. csg. 7,-450 ft.

Pet. Heat & Power Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 3,995 ft.; P. B. 1,774 ft.; tstd. S.W.; S.D.

Pet. Heat & Power Co. No. 2 Iowa-Jennings, sec. 45-9s-2w. T.D. 2,167 ft.; P. B. 1,595 ft.; 5½-in. csg. 1,585 ft.; S.D.

Shell Pet. Corp. No. 4 Community, sec. 40-9s-2w. T.D. 6,096 ft.; making D.S.T.

Stanolind O. & G. Co. No. 112 Crowley Oil & Mineral Co., sec. 48-9s-2w. T.D. 6,838 ft.; P.B. 4,890 ft.; to sdtrk.; drlg. sdy. sh. 7,017 ft.

Superior Oil Co. No. 4 Clement, sec. 46-9s-2w. T.D. 6,546 ft.; 7-in. csg. 6,494 ft.; flwd. oil; started making gas; killed to recomp.

Superior Oil Co. No. 7 Jennings-Heywood, Sec. 41-9s-2w. Drlg. sh. 3,895 ft.

Superior Oil Co. No. 8 Jennings-Haywood, Sec. 41-9s-2w. Drk.

Victor Weisse No. 1 Clement, sec. 46-9s-2w. 6⅝-in. csg. 3,032 ft.; T.D. 3,255 ft.; fsg. for tbg.

Lafitte—Jefferson Parish

Carter-Perrin & Brian No. 1 Lucien Adams, Sec. 9-17s-24e. Spd.

Texas Co. No. 12 LaFitte, Sec. 20-17s-24e. Loc.

Texas Co. No. 3 Madison Realty Co., sec. 17-12s-24e. Cg. sd. S.O. 9,956 ft.

Texas Co. No. 3 Marrero Ld. Co., sec. 29-17s-24e. Drlg. sd.&sh. 8,672 ft.

Texas Co. No. 10 Rigolet Cooperative Fur Co., Sec. 28-17s-24e. Drlg. sh. 3,-608 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 16 State, sec. 32-21s-19e. T.D. 4,280 ft.; P.B. 2,734 ft.; sd. S.O.; top sd. 3,833 ft.; T.D. 4,173 ft.; P.B. 3,600 ft.; sdtrkd.; T.D. 4,140 ft.; perf. csg. 3,790-3,830 ft. and 3,940-90 ft.; tstg.

Texas Co. No. 42 State-Lake, sec. 40-21s-19e. Drlg. sdy. sh. 9,975 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 21 State, sec. 8-23s-18e. T.D. 6,058 ft.; P.B. and sdtrkd.; T.D. 5,761 ft.; P.B. 5,536 ft.; to sdtrk.; drlg. brkn. sh. 5,808 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 8 Lafourche, sec. 11-18s-25e. Drlg. hd. sh. 2,664 ft.; 10¾-in. csg. 967 ft.; drlg. L.&pyrts. 3,853 ft.

Leesville—Lafourche Parish

Wm. Helis No. 1-A City of New Orleans, Sec. 35-21s-22e. Drlg. sh. 8,019 ft.

Texas Co. No. 7 Leeville, sec. 27-21s-22e. Drlg. sh. 1,865 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Robert Verret, sec. 32-19s-19e. Drlg. hd. sd.&gvl. 1,876 ft.; 20-in. csg. 296 ft.; 13⅜-in. csg. 3,164 ft.; cd. oil sd. 8,463-65 ft.; cg. ahd.

Lockport—Calcasieu Parish

La. Crusader Oil Co. No. 1 Milam Stieker, sec. 6-10s-9w. Drlg. sh. 1,828 ft.; 10¾-in. csg. 1,028 ft.; drlg. sh. 6,590 ft.; (cor.).

Magnolia Pet. Co. No. 23 Miller, sec. 9-10s-9w. T.D. 7,952 ft.; cleaned hole; drlg. ahd.

T. C. Markley No. 1 Farquhar (offset Continental No. 1 J. H. Moss). R.U.

Lake Long—Lafourche Parish

Fohs Oil Co. No. 5 State-Lake Long, sec. 64-17s-19e. Drlg. sh. 2,764 ft.; 13⅜-in. csg. 2,761 ft.; drlg. sd.&sh. 8,743 ft.

New Iberia—Iberia Parish

H. Fotiades No. 5 Gulf Ld., sec. 25-12s-1e. T.D. 4,957 ft.; 7-in. csg. 4,700 ft.; P.B. 4,622 ft.; perf. csg. 4,590-4,620 ft.; swbg.; will not flow; reperf. csg. 4,492-4,520 ft.; I.P. 300 B.P.D.; ¼-in. ck.

H. Fotiades No. 7 Gulf Ld., sec. 25-12s-7e. Drk.

Wm. Helis No. 6 Schwing, sec. 56-12s-7e. Salt 3,949-50 ft.; P.B. 1,850 ft.; T.D. 3,938 ft.; trying to sdtrk. at 3,-872 ft.; drlg. sdy. sh. 5,197 ft.

Texas Co. No. 4 J. P. Drake, sec. 26-12s-7e. Drk.; (cor.).

Texas Co. No. 2 Clemente Hebert, sec. 25-12s-7e. R.U.

Texas Co. No. 8 Duke, Sec. 26-12s-7e. Drlg. clay 50 ft.

Texas Co. No. 2 Schwing, sec. 71-12s-7e. Drlg. sd. 4,945 ft.

North Crowley—Acadia Parish

Humble O. &. R. Co. No. 1 H. J. Thevis, sec. 34-8s-1e. Loc.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 3 Garland, Sec. 4-6s-5e. 16-in. csg. 90 ft.

Pan American Prod. Co. No. 1 Rene Nezal. Drk.

Y. D. Spill No. 1 Gaudet, sec. 4-6s-5e. S.D. 1,565 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 36 Orleans Lve. Bd., Sec. 14-18s-15e. Drlg. sdy. sh. 9,371 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 1-A Orleans Levee Bd., Sec. 18-19s-17e. Drlg. sh. 7,684 ft.

Gulf Ref. Co. No. 4 State, sec. 17-19s-17e. T.D. 11,014 ft.; P.B. 10,978 ft.; tstd. S.W.; P.B. 10,780 ft.; perf. csg. 10,745-60 ft.; made sqze. job 10,060-70 ft.; W.O.C.

Gulf Ref. Co. No. 5 State, sec. 17-19s-17e. Loc.

Gulf Ref. Co. No. 6 State, sec. 17-19s-17e. Driving piling.

Raceland—Lafourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., sec. 34-15s-19e. 18⅝-in. csg. 262 ft.; T.D. 11,312 ft.; 7-in. csg. 11,312 ft.; S.D.

Amerada Pet. Corp. No. 2 South Coast Corp., Sec. 35-15s-19e. T.D. 12,200 ft.; run electrical survey.

Tide Water Oil Co. No. 1-A South Corp., sec. 34-15s-19e. R.U.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 13 United Ld. Co., Sec. 15-10s-4e. T.D. 1,516 ft.

Sorrento Pet. Corp. No. 2 White, sec. 22-10s-4e. 16-in. csg. 100 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 1 Joe Sturdivant, Sec. 36-10s-4w. Drlg. brkn. sd. 11,109 ft.

Union Sulphur Co. No. 2 T. R. S. Farms, sec. 23-10s-4w. Sh. 9,736 ft.; cmtd. 7-in. csg. 8,888 ft.; S.D. 10,047 ft.

Starks—Calcasieu Parish

Lutcher-Moore Co. No. 5 fee, sec. 19-9s-12w. T.D. 4,153 ft., salt; P.B. 3,987 ft.; 7-in. csg. 3,827 ft.; bailed dry; S.D. 3,857 ft.

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 19-9s-12w. Top salt 2,270 ft.; S.D.; 2,273 ft.; P.B. 1,150 ft.; S.D.

Timbalier Bay—Lafourche Parish

Gulf Oil Corp. No. 4 State, sec. 36-23-21e. T.D. 7,373 ft.; T.D. sdtrkd. hole 6,231 ft.; fsg.; P.B. and sdtrkd. 3,501 ft.; T.D. 6,545 ft.; drld. by jnk. to 6,-668 ft.; P.B.; to sdtrk.

Valentine—Lafourche Parish

Wm. Helis No. 3 Valentine Sugars, Inc., Sec. 2-17s-30e. Drlg. sh. 1,955 ft.

Pan American Prod. Co., Sec. 8-17s-20e. Drlg. sh. 1,860 ft.

Pan American Prod. Co. No. 2-B Community, sec. 58-17s-20e. T.D. 10,055 ft.; P.B. 8,880 ft.; top sd. and sdy. sh. S.O. 9,300 ft.; 7-min. D.S.T. 9,290-9,325 ft. tstd. 33 stands of P.L.O.; 7-in. csg. 9,290 ft.; unable to pull screen due to high gas pressure.

Pan American Prod. Co. No. 1 A. Robichaux, sec. 3-17s-20e. T.D. 5,889 ft.; stk. D.S.; P.B. and sdtrk.; T.D. 5,975 ft.; run electrical survey.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 1 Bureas

Lve. Bd., Sec. 23-21s-30e. Drlg. sdy. sh. 3,695 ft.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 Corell, Sec. 44-3s-2e. Drlg. sh. 7,205 ft.
Continental Oil Co. No. 2 La. Ld. & Imp. Co., Sec. 46-3s-2e. Drlg. sh. 4,628 ft.
Continental Oil Co. No. 2 Opelousas, St. Landry, Sec. 44-3s-2e. Drlg. sh. 7,167 ft.
Continental Oil Co. No. 2 Piere McDaniel, Sec. 44-3s-2e. Drlg. sh. 8,759 ft.
J. R. Hughes Oil Co. No. 1 J. E. Ortego, Sec. 36-3s-2e. Drlg. sh. 8,055 ft.

Vinton—Calcasieu Parish

J. B. Reddich No. 3 Vincent, sec. 34-10s-12w. T.D. 3,300 ft.; to sdtrk.

Welsh—Jeff Davis Parish

Stanolind O. & G. Co. No. 1 Pousson, Sec. 28-9s-5w. Drlg. sdy. sh. 6,912 ft.

West Gueydan—Vermilion Parish

Magnolia Pet. Co. No. 1 Reese, sec. 5-12s-2w. T.D. 3,197 ft.; 13⅜-in. csg. 3,114 ft.; drlg. sh. 5,640 ft.
Pure Oil Co. No. 1 Vermilion Irrig. Co., sec. 41-12s-2w. R.U.R.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 O. Miller, sec. 7-9s-5w. Drlg. sh.&L. 8,021 ft.

S. LOUISIANA WILDCATS

Acadia Parish

Atlantic Ref. Co. No. 1 Klumpp, sec. 12-7s-2w. R.U.

Avoyelles Parish

Magnolia Pet. Co. No. 1 W. G. Bowden, Sec. 7-2s-4e. R.U.

Calcasieu Parish

Sun Oil Co. No. 2 Lutcher-Moore, sec. 12-8s-13w. T.D. 2,019 ft.; run 13⅜-in. csg.
Wheeler Oil Corp. No. 2 Sch. Ld., sec. 16-9s-7w. 15½-in. csg. 46 ft.; S.D. 641 ft.; T.A.

Cameron Parish

Federal Roy. Co. No. 1 State-Calcasieu Lake, Sec. 34-13s-8w. Bldg. drk.
Humble O. & R. Co. No. 2 K. B. Hanzen, 466 ft. S and E, NW cor. SW¼ Sec. 9-12s-6w. T.D. 9,782 ft.; sqzd. csg. with cmt. at 8,150 ft.; W.O.C.
Pure Oil Co. No. 2 Calcasieu Natl. Bnk., sec. 18-12s-4w (½ mi. N of No. 1). R.U.

Union Sulphur Co. No. 3 Miami Corp., Sec. 33-12s-8w. (Willow Lake area). Drlg. sdy. sh. 3,180 ft.

Concordia Parish

Benedum & McCormick No. 1 L. P. Allen, sec. 35-5n-8e. R.U.

Jefferson Parish

Julius Szodomka No. 1 Carroll, sec. 12-12s-11e. T.D. 5,230 ft.; S.D.

Lafourche Parish

Sun Oil Co. No. 1 Dilbert Stark, Brown Cypress Co., Sec. 70-15s-15e. Drlg. sh. 7,077 ft.
Texas Co. No. 1 La Terre, sec. 1-20s-21e. T.D. 8,898 ft.; 9⅝-in. csg. 8,898 ft. drlg. plug.

Orleans Parish

W. T. Burton No. 2-B Faubourg de Montluzin, Sec. 1-10s-13e. Drlg. sh. 3,601 ft.
W. T. Burton No. 1-B R. E. E. de Montluzin, sec. 1-10s-13e. Drk.
W. T. Burton No. 1 State-Lake Pontchartrain, Twp. 10s-13e. Drlg. sd.&L. 7,815 ft.

Rapides Parish

J. J. Farrell No. 1 W. P. Aertker, sec. 16-4n-1e. Drk.
E. F. Kalb et al No. 1 Lee Lbr. Co., sec. 9-5n-3e. S.D. 140 ft.

St. James Parish

Continental Oil Co. No. 1 Colonial Sugars Co., Sec. 46-12s-5e. Cg. sh. 9,135 ft.

St. John the Baptist Parish

Shell Pet. Corp. No. 1 Godchaux, sec. 97-11s-7e. Cg. sh. 9,088 ft.

St. Landry Parish

Herton Oil Co. et al No. 1 Thistlephlite Lbr. Co., Sec. 60-4s-4e. Drlg. sh. 1,100 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Jeanerette Lbr. Co., Sec. 14s-12e. T.D. 10,550 ft.; S.D.; W.O.
Texas Co. No. 6 State Lake Mongoulois, Sec. 10-10s-9e. Drlg. S.W. sd. 7,184 ft.
Texas Co. No. 11 St. Martin Ld. Co., Sec. 21-8s-7e. Top salt 8,904 ft.; drlg. salt 9,404 ft.

Terrebonne Parish

Shell Pet. Corp. No. 1 Peters, sec. 73-18s-18e. T.D. 9,807 ft.; sd.; making D.S.T.

Vermilion Parish

Stanolind O. & G. Co. No. 2 F. Stovall, Sec. 88-14s-3e. Loc.

TEXAS

Week Ending August 27

GULF COAST FIELDS

Danbury—Brazoria County

Rowan Drlg. Co. et al No. 8 Jameson, H. Austin Sur. Drlg. 200 ft.

Lockridge—Brazoria County

Shell Pet. Corp. No. 5-B Ramsey State farm, J. W. Hall Sur. T.D. 6,365 ft.; W.O.C.; P.B. 6,336 ft.; made sqze. job 6,342-52 ft.; P.B. 6,336 ft.; W.O.C.; flwd. 66 bbls. 6 hrs.; 9/64-in. ck.

Hastings Field—Brazoria County

Humble O. & R. Co. No. 9 J. E. Alexander, H.T.&B. Sur. 28. Drlg. sh. 5,536 ft.
Stanolind O. & G. Co. No. 1-B Moore, I.&G.N. Sur. No. 22. Loc.
Stanolind O. & G. Co. No. 6 Artie Remely, H.T.&B. Sur. No. 28. Drlg. sh. 1,836 ft.
Stanolind O. & G. Co. No. 7 Remley, H. T.&B. Sur. No. 28. Loc.
Stanolind O. & G. Co. No. 2-C Cecil Brown, W. H. Snyder Sur. Drk.
Stanolind O. & G. Co. No. 2 P. McDonald, Mary Sloan Sur. Drk.
Stanolind O. & G. Co. No. 15 Sneed, A. C.H.&B. Sur. Drk.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 3 Armstrong Plantation, Polley & Chance Sur. Spd.
Harrison & Abercrombie No. 1 Chenault, C. Breen Sur. Drlg. sh. 7,638 ft.
Harrison & Abercrombie No. 1 Fisher, and Larsen, C. Breen Sur. Loc.
Harrison & Abercrombie No. 1 R. D. McDonald, C. Breen Sur. Loc.
Harrison & Abercrombie No. 1 C. Larsen, Chas. Breen Sur. Cg. 10,227 ft.
Harrison & Abercrombie No. 1 Sadler & Larsen, C. Breen Sur. T.D. 10,224 ft.; comp.; no ga.

Stratton Ridge—Brazoria County

Sterling O. & R. Co. No. 1 J. C. Kramer, T. W. Grayson Sur. T.D. 3,695 ft.; P.B. 3,200 ft.; sdtrkd.; drlg. sd. 4,368 ft.

West Columbia—Brazoria County

Mike Hogg No. 3 fee, G. Tennille Sur. Drlg. sh. 5,312 ft.
Texas Co. No. 25 W. H. Abrams, G. Tennille Sur. T.D. 4,881 ft.; P.B. to sdtrk.; T.D. 4,881 ft.; P.B. and sdtrk.; drlg. sh. 4,667 ft.
Texas Co. No. 26 Abrams, G. Tennille Sur. Drlg. sh. 4,138 ft.
Texas Co. No. 27 W. H. Abrams, G. Tennille Sur. Drlg. sh. 2,736 ft.
Texas Co.-Sterling O. & R. Co. No. 8 Phillips, Geo. Tennille Sur. Drlg. sh. 3,139 ft.

Cedar Point—Chambers County

Standard Oil Co. of Texas and Salt Dome Oil Corp. No. 2-118 State, Galveston Bay. Loc.

Cotton Lake—Chambers County

J. R. Turnbull No. 1 Casey, S. Barrow Sur. T.D. 6,539 ft.; 5½-in. csg. 6,525 ft.; perf. csg. 6,460-70 ft. and 6,480-92 ft.; flwd. oil and S.W.; reperf. csg. 6,465-95 ft.; flwd. oil; well went dead; perf. csg. 6,390-6,410 ft.; pulled collapsed csg.; sdtrkd.; T.D. 6,490 ft.; W.O.C.; perf. csg. to test.

Seabreeze—Chambers County

Sun Oil Co. No. 1 Tate, H.T.&B.R.R. Sur. Bldg. drk.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1-38 State (6,000 ft. S of field in Turtle Bay). Loc.

Greens Lake—Galveston County

Sun Oil Co. No. 2 Houston Farm Dev. Co., D. Bucklev Sur. T.D. 7,505 ft.; cmtd. csg.; perf. csg. 7,008-16 ft.

Hitchcock—Galveston County

N. W. Hunter No. 1 J. D. Hughes, A. Burke Sur. T.D. 6,020 ft.; abd.
Maco Stewart No. 4 fee, J. Spillman Sur. R.U.

Bammel—Harris County

H. M. Lawrence and Geo. Lawrence No. 1 C. Ehrkardt, H. Simmons Sur. R.U.

Clear Lake—Harris County

West Prod. Co. No. 4 West fee, J. B. McKinstry Sur. Drlg. sh. 5,630 ft.; no report.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 C. J. Caywood, Reels & Trobough Sur. Drlg. sh. 3,336 ft.
Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.
Stanolind O. & G. Co. No. 2 Paul Weber, Reels & Trobough Sur. Loc.

Eureka—Harris County

Jack Frazier No. 2 Emma Heiberg, J. Reinerman Sur. Drlg. 1,510 ft.
Jack Frazier No. 1 Lackner, H. Reinerman Sur. Drlg. sh. 8,312 ft.
Houston Oil Co. No. 3 Heiberg & Lackner, J. Reinerman Sur. Spd.
Means & McGee No. 1-C Lackner, H. Reinerman Sur. T.D. 7,735 ft.; 5½-in. csg. on bttm.
Tide Water Asso. Oil Co. No. 2-A Lackner, J. Reinerman Sur. T.D. 7,760 ft.; cmtd. csg. on bttm.; tstd. S.W. 7,720-35 ft.; fsg.
Tide Water Asso. Oil Co. No. 1-B Laura Lackner, H. Reinerman Sur. T.D. 7,725 ft.; perf. csg. 7,688-98 ft.; tstg.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 1 Adell, J. Clarkson Sur. R.U.
Amerada Pet. Corp. and Stanolind O. & G. Co. No. 3 Smith, J. Waugh Sur. Loc.
Amerada Pet. Corp. and Stanolind O. & G. Co. No. 2 Silberg, Geo. Ayers Sur. Drlg. sh. 1,750 ft.
Bridwell O. & G. Co. No. 1 Gibson, Geo. Ayers Sur. Drlg. sh. 1,230 ft.
Carroll Oil Co. No. 1 Ralph Johnston, J. N. Dement Sur. T.D. 6,864 ft.; perf. csg. 6,839-43 ft.; would not flow; S.D
Gem Oil Co. No. 6 Reid, Geo. Ayers Sur. R.U.
E. M. Hailey No. 1 Albert Brown, J. Clarkson Sur. Loc.
Housch-Thompson No. 1 Fisher Est., T. Hogan Sur. Cg. 6,810 ft.
D. W. Moore and O'Hern No. 1 Whitehead-Rash, W. S. Powell Sur. R.U.
Mortex Oil Co. No. 1 W. R. Reid, G. Ayers Sur. T.D. 6,839 ft.; W.O.C.
Showers & Moncrief No. 1-B B. W. Reid, J. Waugh Sur. T.D. 6,848 ft.; reperf. csg. 6,843-46 ft.; tstg.
Skelly Oil Co. No. 3 J. H. Emmott, J. Waugh Sur. R.U.
Smith and Ownby No. 4 Gibson, Geo. Ayers Sur. Drlg. sh. 2,183 ft.
Stanolind O. & G. Co. No. 1 Fritz Look, S. Lewis Sur. T.D. 7,495 ft.; 7-in. csg. 5,989 ft.
Williams and Thompson No. 2 A. K. Kramer, G. S. Reed Sur. R.U.
Windsor Oil Co. No. 3 O. E. Parker, J. Waugh Sur. Loc.
Windsor Oil Co. No. 4 O. Parker, J. Waugh Sur. T.D. 6,839 ft.; 5½-in. csg. 6,839 ft.; perf. csg. 6,833-38 ft.; tstg.
Windsor Oil Co. No. 1-B C. D. Ley, Geo. Ayers Sur. Drk.

Friendswood—Harris County

Humble O. & R. Co. No. 21 L. S. Beamer, T. Choate Sur. Drlg. sh. 5,530 ft.
Humble O. & R. Co. No. 12 E. A. Grey, Perry & Austin Sur. Drlg. 5,336 ft.
Humble O. & R. Co. No. 3 Herman Hospital, T. Choate Sur. T.D. 6,047 ft.; W.O.C.
Humble O. & R. Co. No. 1 J. L. Jones, Perry & Austin Sur. Drk.
Humble O. & R. Co. No. 3 Settegast, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 E. E. Watson. Drk.
Humble O. & R. Co. No. 1 C. E. Wood, W. C. D. Hall Sur. Drlg. sh. 1,520 ft.

Cordele—Jackson County

H. J. Porter No. 1 Woussi. Peter White Sur. Loc.

Clam Lake—Jefferson County

Shell Pet. Corp. No. 2 McFaddin, S. A Pace Sur. T.D. 8,198 ft., salt; top salt 8,156 ft.; 5-in. csg. 5,659 ft.; perf. 5,548-52 ft.; P.B. 3,895 ft.; perf. csg. 3,880-90 ft.; P.B. 3,801 ft.; perf. csg. 3,820-30 ft.; swbg.

Cheek—Jefferson County

Shell Pet. Corp. No. 1 Ed. Pleasant, C. Hildebrand Sur. T.D. 7,726 ft.; tstd. oil on D.S.T. 7,711-21 ft.; P.B. 7,725 ft.; flwg. 36 bbls. dist. daily through ⅞-in. ck.; killed well; pulling tbg. to recomp.

North Cheek—Jefferson County

Magnolia Pet. Co. No. 5 J. H. Phelan. A. Stivers Sur. T.D. 8,319 ft.; flwg. dist. through 17/64-in. ck.; pulling tbg. to rework.

Spindletop—Jefferson County

Unity Oil Co. No. 1 Greer Noll, J. A. Veatch Sur., Blk. 7, Spindletop Hgts. Subd. (NE flank wildcat). Drk.

Hardin—Liberty County

Humble O. & R. Co. No. 1 M. H. Johnson, H. B. Johnston Sur. T.D. 7,700 ft.; 5½-in. csg. on bttm.; tstg.
Humble O. & R. Co. No. 3 W. S. Partlow, H. B. Johnston Sur. R.U.
Shell Pet. Corp. No. 4-A J. H. Cessna, H. B. Johnson Sur. R.U.
Woodley Pet. Co. No. 1 Emma Davis et al, A. B. Hardin Sur. T.D. 7,636 ft.; W.O.C.
Woodley Pet. Co. No. 2 Emma Davis et al, A. B. Hardin Sur. Spd.

McCrosky—Matagorda County

Pierce Est. No. 4-A Pierce. T.D. 6,626 ft.; 5½-in. csg. 6,621 ft.; flwd. 103 bbls. in 12 hrs.; ¾-in. ck.; died; swbd. oil and S.W.; P.B.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 C. W. Badouh. E. Hall Sur. Drlg. sdy. sh. 9,130 ft.; no report.
Hamman Explin. Co. No. 2 Badouh, E. Hall Sur. Loc.
Hamman Explin. Co. No. 3 Thompson, E. Hall Sur. Drlg. sh. 7,639 ft.; no report.

Segno—Polk County

Gulf Oil Corp. No. 3 A. Ragan, I.&G.N. Sur., Sec. 15. Drlg. sh.&L. 6,557 ft.

MILLER
is always ahead

PERFORMANCE of MILLER Sand Pumps is a result of years of experience by oil men.

SPEED of the MILLER in cleaning-out is a result of the powerful suction action.

ECONOMY is the reason, why MILLER'S are in World-Wide use.

MORE OIL *is the reason* YOU *should use a* MILLER!

The MILLER is made in diameters of 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet.

5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY Type Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

● BAILER BOTTOM
With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.

● SAND BOTTOM
Used when tools are run and when well is shot to quickly remove loose material.

● STAR BOTTOM
Used for cutting the sand loose.

● CHISEL BOTTOM
(In Pump)
With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

See Page 1445 COMPOSITE CATALOG

MILLER
Sand Pump Co.

PATENTED
NO. 1370340
NO. 1523604
NO. 1727290
NO. 1862629
NO. 1886648
NO. 2050667

General Offices and Shop, Box 4516
OKLAHOMA CITY, OKLA., U. S. A.

Branch Shops and Offices:
SAPULPA, OKLA. and KILGORE, TEX.

FOR SALE BY SUPPLY STORES EVERYWHERE

Gulf Oil Corp. No. 12 Wing. Drlg. sh. 7,686 ft.
Humble O. & R. Co. No. 9-B Kirby, M. Victor Sur. Drlg. sd. 7,986 ft.

Magnet—Wharton County

Gray & Wolf No. 1 State, Colo. River Sur. 10¾-in. csg. 1,160 ft.; drlg. sh. 4,020 ft.

Withers—Wharton County

Texas Co. No. 50-C Pierce Est., John Caldwell Sur. T.D. 5,552 ft.; W.O.C.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.
Glenn McCarthy No. 1 G. C. Street, D. H. M. Hunter Sur. S.D. 5,800 ft.
W. C. Neville et al No. 1 Houston Farms Dev. Co., Perry & Austin Sur. 10¾-in. csg. 1,170 ft.; T.D. 7,007 ft.; abd.
Texas Co. No. 5 Freeport Sulphur Co., H. Burt Sur. Drlg. sh. in sdtrkd. hole 3,905 ft.

Burleson County

Peerless O. & G. Co. No. 1 G.C.&S.F. fee, James Lastley Sur. S.D. 1,200 ft.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.

Galveston County

Sun Oil Co. No. 1 Cade, A. Dickinson. T.D. 8,120 ft., sh.; cmtd. 7-in. csg. 8,750 ft.; (protection string); D.S. stk. sdtrkd. hole 7,341 ft.; T.D. 8,245 ft.; 9⅝-in. csg. 8,242 ft.

Harris County

H. H. Givens No. 2 F. K. Adone, David Middleton Sur. Drk.
Humble O. & R. Co. No. 1-A Keeler, W. Whitlock Sur. Loc.

Jackson County

Magnolia Pet. Co. No. 3-A West Rnch., Ramon Musquez Sur. 13⅜-in. csg. 1,346 ft.; T.D. 5,086 ft.; recvd. 420 ft. oil; D.S.T. 5,078-86 ft.; 7-in. csg. 5,080 ft.; flwg. 2 bbls. fluid per hr.; ¼-in. ck.; tstg.

Jefferson County

Geo. Echols et al No. 1 American Natl. Bnk., J. J. French Sur. R.U.
I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two: S.D.
Humble O. & R. Co. No. 8-B McFaddin-State, Gulf of Mexico. 7-in. csg. 810 ft.

Lavaca County

Crosby Drlg. Co. No. 1 Bertha Graf, Sublime area. Drlg. 1,210 ft.

Liberty County

John G. Mayo, Inc., No. 1 M. E. Roberts, J. F. DeRumayor Sur. 7-in. csg. 40 ft.
Wallace & Hargrove et al No. 1 J. C. League, M. DeLos Santos Sur. Drlg. sh. 4,136 ft.

Madison County

W. E. Holleman, Tr., No. 1 D. C. Cannon Hrs., NW of Madisonville. Drk.

Matagorda County

Glenn H. McCarthy No. 1 Nancy Moffett et al, Susan Perkins Sur. 10¾-in. csg. 2,405 ft.; drlg. sh. 6,037 ft.
Ohio Oil Co. No. 1 W. D. Cornelius, P. C. Yarborough Sur. Drlg. sh. 6,276 ft.

Montgomery County

Deep South Pet. Corp. No. 1 Foster Lbr. Co., Preyor Bryan Sur. 10¾-in. csg. 700 ft.; drlg. sh. 1,520 ft.
David D. MacDaniel No. 1 J. C. Fleming, D. M. Gaheen Sur. Drlg. sh. 1,800 ft.
J. Smith et al No. 1 J. V. Scott, F. A. B. Wheeler Sur. S.D. 380 ft.
W. L. Todd et al No. 1 I. L. Martin, Z. Landrum Sur. T.D. 700 ft.; W.O.C.

Newton County

Republic Prod. Co. No. 1 Sabine Tram, Isaac Garner Sur. (NW Starks Prospect). R.U.

Waller County

Stanolind O. & G. Co. No. 1 J. J. Sweeney Est., T. S. Reese Sur. No. 110, 2,640 ft. E of No. 1 Freeman in Katy gas field. Loc.

Washington County

Speed Oil Co. et al No. 1 August Makowsky, D. McIntyre Sur. Drlg. 600 ft.

Wharton County

Humble O. & R. Co. No. 1 Worington, S. F. Austin Sur. T.D. 7,671 ft.; abd.
Albert Plummer No. 1 Mrs. Corbett, Kuykendall Sur. T.D. 5,966 ft.; S.D.

S. W. TEXAS WILDCATS

Atascosa County

Mason Altgelt No. 1 J. G. Gibson, Francisco De La Garza Sur. Drlg. sh. 2,807 ft.
Western Gulf Prod. Co. No. 2 Vanegas, Francisco De La Garza Sur. Cd. sat. serpt. 2,732-43 ft.; C.O. hole; to test.

Bastrop County

R. C. Franklin No. 2 Yarrington, Jose Manuel Bangs Sur. S.D. 1,740 ft.
Paul Texas and Ashby No. 1 J. T. Grizzard, Andrew Graham Sur. Drlg. sh. 5,575 ft.

Bee County

Atlantic Ref. Co. No. 1 Courtney, Geo. Kerr Sur. T.D. 3,660 ft., sd.; swbg. oil and mud.
Devonian Oil Co. No. 1 Maley, Henry Coley Sur. Cg. 3,318 ft.
R. B. Swiger et al No. 1 R. B. McKinney. 10¾-in. csg. 102 ft.; T.D. 4,208 ft.; abd.

Bexar County

Frank Gilpin, Jr., No. 1 Nieman, Juan Montes Sur. S.D. 40 ft.
Nami Herman No. 1 W. F. Fields, A. Bustillos Sur. T.D. 737 ft.; 5⅛-in. csg on bttm.; S.D.

Blanco County

D. M. Johnston No. 1 Glasscock, W. W. McDonald Sur. No. 50. 10-in. csg. 150 ft.

Caldwell County

Banke Miller Oil Co. No. 1 Martindale, Hector McNell Sur. T.D. 3,223 ft.; S.D.; abd.
R. H. Dye No. 1 Voight, Wm. Watkins Sur. S.D. 1,500 ft.

Calhoun County

Hiawatha O. & G. Co. No. 2 J. J. Roemer, J. Ogsberry Sur. T.D. 6,730 ft.; rng. protection csg.

De Witt County

Marjo Oil Co. No. 1 W. D. McCurdy, John Hunt Sur. S.D. 34 ft.

Duval County

James Foster No. 1 Foster, B.S.&F. Sur. No. 268. S.D. 1,850 ft.
Frank Gravis No. 2 Schallert, Seale, Morris & Seale Sur. No. 255 (Palagana salt dome). Drlg. sh. 1,696 ft.
Magnolia Pet. Co. No. 1 Duval County Ranch Co., C.C.S.D.&R.G.N.G. Sur. No. 83. T.D. 2,704 ft.; abd.
Magnolia Pet. Co. No. 1 Duval Co. Rnch. Co., C.C.S.D.&R.G.N.G. Sur. No. 81. Loc.
Joe Palmer No. 1 Gruy, S. G. Hays Hrs. Sur. Cg. 2,880 ft.
E. J. Purl No. 1 Corkill, J. Poitevent Sur. Loc.
Rowan & Hope No. 1 Cuellar, sec. 69, (Tesoro field). T.D. 5,360 ft.; perf. csg. 5,073-84 ft.; tstg.
Standard Oil Co. of Texas No. 1. Dolores Garcia Sur. 7-in. csg. on bttm.; T.D. 7,118 ft.; abd.

Edwards County

Evans & Love No. 1 Steve Brown, Blk. 6, G.W.T.&P. Sur. S.D. 6,261 ft.

Frio County

Humble O. & R. Co. No. 1 Schley, Jos. Travalder Sur. No. 174. Drlg. sdy. sh. 2,950 ft.
G. E. Smith No. 1 San Antonio Joint Stock Ld. Bnk., G.B.&C.N.G.R.R. Sur. No. 1. T.D. 3,738 ft., oil sd.; 5¾-in. csg. 3,722 ft.; tstd. S.W.; abd.

Goliad County

Jack Frazier and Bunte Prod. Co. No. 1 Taylor. T.D. 5,563 ft.; abd.
Sun Oil Co. No. 1 Lee Homer, John Payne Sur. Cg. 5,112 ft.

Guadalupe County

Banks-Miller Oil Co. No. 1 Union Central, R. G. Davis Sur. S.D. 2,167 ft.; abd.
A. D. King Rosenbrock, Vincente Duran Sur. S.D. 430 ft.
Pegg Bros. No. 2 Maierhoffer, L. H. Peters Sur. Drlg. 810 ft.
R. A. Williams No. 1 Weber, Guadalupe Torres Sur. Drlg. 1,045 ft.

Hidalgo County

R. E. Hardin et al No. 1 E. M. Car, Hidalgo Co. Canal Subd., Lot 8, Blk. 8. Drlg. sh. 1,250 ft.
R. E. Harding No. 1 Lynn, Juan Jose Hinojosa Sur. T.D. 7,300 ft.; perf. 5½-in. csg. 7,103-15 ft.; tstd. S.W.; perf. csg. 7,074-82 ft.; tstd. S.W.; sqzd. perf.; perf. csg. 5,970-74 ft.; flwg. dist. and drlg. mud; tstg.
Hidalgo Prod. Co. No. 1 Daskam Corp. Porc. 45, Blk. 34. T.D. 4,166 ft.; abd.
Phillips Pet. Co. No. 1 Flores (deep test N of Samfordyce field). T.D. 5,860 ft.; cmtd. 7⅝-in. csg. 5,847 ft. (protection string). Drlg. sh. 7,369 ft.
Union Sulphur Co. No. 1 Am.-Rio Grande Ld. & Ir. Co. (Mercedes). Cmtd. 7-in. csg. 8,417 ft.; T.D. 9,618 ft.; 5½-in. lnr. set 8,369-9,618 ft.; tstd. S.W. 9,420-30 ft.; made sqze. job; W.O.C.
Wheelock & Collins No. 1 Temple Lbr. Co., Lino Cavaos, Porc. 57-A. Drlg. sh. 5,975 ft.

Jim Hogg County

Humble O. & R. Co. No. 2 Kelsey Bass, San Rafel Sur. T.D. 3,482 ft.; 10¾-in. csg. 3,469 ft.; drlg. sh. 4,569 ft.

Jim Wells County

J. W. Cosner No. 1 C. B. Stillwell, Blk. 62, L. G. Collins Farm Trs. Cg. 5,227 ft.
H. H. Howell No. 1 Mosser, Blk. 97, L. G. Collins Subd. T.D. 7,280 ft.; perf. csg. 4,786-98 ft.; flwg. est. 160 B.P.D.; ¼-in. ck.
H. H. Howell No. 1 Stillwell, Blk. 63, L. G. Collins Subd. Cg. 5,278 ft.
Humble O. & R. Co. No. 1 Wm. Adams, Marcellino Lopez Gr., Abst. No. 28. Drlg. sh. 6,045 ft.
Humble O. & R. Co. No. 1 John A. True, Los Presenos de Abajo Sur. 10¾-in. csg. 1,090 ft.; drlg. 2,130 ft.
Magnolia Pet. Co. No. 1 Romano, V. de Garcia Las Animas Sola gr., 1,126 ft. E of discovery well. Drlg. sh. 3,810 ft.
Magnolia Pet. Co. No. 1 Martin, Ana Maria Vaco gr. Drlg. sh. 6,337 ft.
Shell Pet. Corp. No. 1 C. H. Von Blucher, Lucinda Best Sur. Drlg. shly. sd. 6,856 ft.
Smith & McDannald No. 1 Rooney, Casa Blanca gr., Blk. 11. Drlg. sh. 2,610 ft.
Transwestern Oil Corp. No. 1 B. H. Dunlap, Sur. 179-181 (1½ mi. SW East Premont field). 18⅝-in. csg. 485 ft.; drlg. sh. 4,897 ft.

Kendall County

Geo. Dorsey No. 1 Flanagan, J. Sweeney Sur. No. 12. S.D. 350 ft.
Millican and Norman No. 1 Werner, J. F. Torrey Sur. Drlg. 812 ft.

Kerr County

H. C. Starkey No. 1-A Saue, T.W.N.G. R.R. Sur. S.D. 345 ft.

Kimble County

Phillips Pet. Co. No. 1 Mudge, C.C.S.D.& R.G.N.G.R.R. Sur. No. 9. T.D. 2,003 ft.; fsg.
Plateau Oil Co. No. 1 S. J. Davis, N. Mitchell Sur. No. 44. R.U.
Plateau Oil Co. No. 1 Hunger, J. Dujner Sur. Drlg. 1,550 ft.

Kleberg County

Pure Oil Co. et al No. 1 State Ld., Tr. 68, Laguna Madre Bay, Lse. No. 528. Drlg. sh. 9,410 ft.

Lavaca County

A. C. McCord et al No. 1 Cora Russek, Blk. 33, J. C. Reynolds Sur. (S of Ezzell). Spd. and S.D.
Midway Oil & Royalty Co. No. 1 Michalelk, S. H. Jack Sur. Drlg. sh. 3,150 ft.

Lee County

Eleoussa Oil Co. No. 1 Sanders, J. Vin Roeder Sur. T.D. 4,398 ft.; prep. to resume drlg.
Fred Pederson et al No. 1 Brown, David Hudson Sur. Drlg. sh. 2,719 ft.
A. H. Tarver No. 1 J. W. Lawhon. T.D. 3,345 ft., Edws. L.; run 5½-in. csg. to test at 3,300 ft.

Live Oak County

J. K. Adair No. 1 Schultz Live Stock Co., Wm. J. Pierce Sur. 10¾-in. csg 20 ft.; S.D. 494 ft. for wtr.
R. H. Feltner No. 1 Reed, I.&G.N. R.R Sur. 15. R.U.
Hanna et al No. 2 West, C. O. Ragland Sur. S.D. 2,616 ft.
Holland Oil Co. No. 1 Wallace, Cameron Co. Sch. Ld. Sur. S.D. 200 ft.
N. P. Oil Co. No. 1 Griffith, J. Poitevent Sur. No. 49. S.D. 945 ft.
Richardson Pet. Co. No. 1 Reagan, Wm. O'Docherty Sur. T.D. 2,386 ft.; abd.
V. G. Schimmel et al No. 1 Geo. Wess. G. L. Haas Sur. T.D. 210 ft.
Wallace & Jones No. 1 Burrows, Eneas Smith Sur. Drlg. 1,656 ft.

McMullen County

W. T. Kirby No. 1 Chylek, J. M. Hernandez Sur. Drlg. 800 ft.
Wm. Spice, Jr., No. 1 Edrington, A.B.& M. Sur. 57 (5 mi. E Loma Alto). Rig.

Maverick County

L. M. Lockhart No. 1 Ashbrook, W. J. Phillips Sur. No. 83. Drlg. 2,786 ft.
Wellington Oil Corp. No. 1-B Chittim, I. &G.N. Sur., Blk. 6, sec. 98, 14 mi. SE of Eagle Pass. Drlg. L. 1,785 ft.

Medina County

J. W. Cromwell No. 1 J. W. Tondre. I J. Rogers Sur. T.D. 1,250 ft.; P.B. 1,080 ft.; cmtd. csg. 1,021 ft.; shot 1,024-80 ft.; drlg. ahd. 1,276 ft.
L. W. Stieren No. 1 Haegelin, Dolly Smitherman Sur. Drlg. 525 ft.
Taylor & Pepper No. 1 Saathoff, Peter Eichorn Sur. T.D. 935 ft.; abd.
Ziegler et al No. 1 Wiemers, F. Thurmm Sur. S.D. 770 ft.

Milam County

Texedo Oil Co. No. 1 Paul Garves, C Robertson Sur. S.D. 1,170 ft.; C.O. set 7-in. csg. 1,167 ft.; S.D. 1,520 ft.

Nueces County

Texas Co. No. 1 E. Little et al, Wm. Little Sur. Loc.
Union Prod. Co. No. 1 Minnie Brown (Aqua Dulce area). T.D. 10,741 ft.; heaving sh.

Refugio County

I. J. Allen No. 1 Rooke, Aldrite Sur O.W.D.D.; tstd. S.W.; D.S.T. 5,415-20 ft.; drlg. ahd.
I. J. Allen No. 3 Rooke, Jose Miguel Aldrite and Jose Marie Aldrite Sur. (933 ft. SE of No. 2). Loc.

San Patricio County

Seaboard Drillers No. 1 Smith, G. H. Paul Subd. of J. J. Welder ranch. R.U.

Starr County

Hagan and Stewart Oil Co. et al No. 1 Salinas, Antonio Canales Salinas gr. Cg. sh. 1,512 ft.
Magnolia Pet. Co. No. 1 Guerra, Santa Cruz gr. (LaReforma field), 1,900 ft. SW of discovery well). Drlg. sh. 1,876 ft.
Massingall and J. R. B. Moore No. 1 Garza, Jose S. Garza Porc. 88. R.U.
Sun Oil Co. No. 1 Lopez, N. Vela Sur., Porc. 82. Cg. 2,730 ft.
Sun Oil Co. No. 1 Smith, A. J. Smith Sur. Drlg. 4,067 ft.
W. W. Zimmerman et al No. 1 Starr Co. Cattle Co., Juan De La Garza, Porc. 89. S.D. 2,270 ft.

Travis County

L. G. Priest No. 1 Mazock, J. M. Leavy Sur. No. 5. S.D. 855 ft.
R. F. C. Oil Co. No. 1 Jones, Reuben Hornsby Sur. No. 17. 5-in. csg. 1,009 ft.; S.D. 1,075 ft.; T.D.

Webb County

J. W. O'Byrne No. 1 Lacey, Mary E. Wideman Sur. Drlg. sdy. sh. 1,721 ft.

Williamson County

F. J. Anderson No. 1 Teichelman Absalam, Jett Sur. Drlg. 1,720 ft.
H. H. Coffield No. 1 Poe, Harrison Owens Sur. S.D. 1,300 ft.
Fritz Fuchs No. 1 Stiles, Jehu Bevil Sur. No. 56. S.D. 1,085 ft.

Wilson County

Stapper Oil Co. No. 1 J. McDaniel, L. Manchoca Sur. S.D. 3,008 ft.

Zapata County

Thompson & Lowe No. 1 Ramirez, Blk. 6, Doyle Subd. of Porc. 18. S.D. 700 ft.

EAST TEXAS

(Border Counties)

Bowie County

King Oil Corp. No. 1 Watts, Geo. Brinlee Sur. T.D. 4,574 ft.; prep. deepen

Cass County

Bateman Drlg. Co. No. 1 Eliza Jaynes, 80-ac. tr., Ambrose Douthet Sur. R.U.
Harry Hanbury No. 1 Echols et al, SE cor. Echols tr., Wm. Mayes Sur. Tstd. S.W. and S.O. 5,987 ft.; P.B. 5,967 ft. and W.O.C.; old T.D. 5,987 ft.
Texarkla Oil Corp. No. 1 Mayo, Bryant Holmes Sur. Set 6⅝-in. csg. 6,120 ft.; perf. 6,068-80 ft.; tstg. 6,143 ft.
Texas Co. No. 2 Chatten Est., Wm. Myers Sur. Comp.; 39 B.P.H.; ⅛-in. ck.; T.P. 200 lbs.; C.P. 1,000 lbs.; T.D. 5,968 ft.

Marion County—Rodessa

Ark.-La. Gas Co. No. 1 Badgett, Allen Urquhart Sur. Set 10¾-in. csg. 1,007 ft.; drlg. L. 5,757 ft.
Ark.-La. Gas Co. No. 4 Holland, Hanks Sur. Set 7-in. csg. 6,050 ft.; tstg. 6,090 ft.
Ark.-La. Gas Co. No. 1 Johnson, Alex. Johnson Sur. D.S.T. 5,984-6,018 ft.; ⅝-in. ck. bttm.; ½-in. ck. top; open 9 min. rec. est. 30,000,000 ft. gas; 11 jts. drlg. fluid; top 2 jts. mud and drlg. wtr. cut with gas: W.O.C. 6,154 ft.; cg. 6,114-34 ft.; G.&O.S.; perf. in Henderson sd. 5,978-96 ft. and comp.; 28,000,000 ft. gas; T.P. 2,420 lbs.; C.P. 2,450 lbs.; T.D. 6,050 ft.; old T.D. 6,154 ft.
Ark.-La. Gas Co. No. 1 Walker, Humphries Sur. Set 7-in. csg. 5,969 ft.; T. D. 5,972 ft.
T. Bell et al No. 1 Moseley, D. Lan Sur. W.O.C. 2,522 ft.
Gulf Oil Corp. No. 3 Grubaugh, Coy Sur. Drlg. anhy.&sh. 5,665 ft.
Holcomb & Thomason No. 1-C Henderson, R. Bennington Sur. Comp.; 519 B.P.D.; ¼-in. ck.; T.P. 400 lbs.; C.P. 600 lbs.; 5½-in. csg. 6,062 ft.; T.D. 6,090 ft.
Hollandsworth Drlg. Co. No. 1 H. B. Davis, Wm. Smith Sur. Drlg. L.&sh. 4,395 ft.
Phillips Pet. Co. No. 2 Beard, Bennington Sur. Drlg. anhy.&sh. 5,510 ft.
Phillips Pet. Co. No. 2 Benefield, J. Hanks Sur. Cg. 6,070 ft.
Shell Pet. Corp. No. 5 Schluter, Wm. Smith Sur. Drlg. L.&sh. 5,899 ft.

Panola County

Texas Co. No. 1 Claude Adams, T. Cox Sur. Top lower Marine 7,792 ft.; drlg. hd. bl. sh. 10,786 ft.

Sabine County

Hugo Allen No. 1 Brooks, Isaac Low Sur. D.S. stk.; T.D. 5,044 ft.
Pet. Heat & Power Co. No. 1 Jasper State Bank, McDonald Sur. T.D. 2,506 ft., sd.; S.D.W.O.

Shelby County

W. A. Reddit No. 2 Pickering Lbr. Co., P. J. Loggins Sur. Set 7-in. csg. 2,920 ft.; T.D. 4,420 ft.; Woodbine sd. 2,905-10 ft.; flwg. in pits; arng. dpn.

WEST TEXAS WILDCATS

Andrews County

Fuhrman Pet. No. 1 G. O. Ashton, sec. 12, Blk. A-42, P.S.L. Sur. Drlg. 3,985 ft.
Olson Drlg. Co. No. 1 Lockhart-Brown. 5 mi. W of south end of Fuhrman pool. S.D.R. 2,931 ft.
J. W. Tripplehorn No. 1 M. A. Thornberry, Sec. 2, Blk. 42-A. Drlg. 120 ft.
H. C. Wheeler No. 1 White-Shelton, Sec. 18, Blk. 36-A, P.S.L. Sur. Spd.

Cochran County

Magnolia Pet. Co. No. 1 Della Wright, Lab. 7, Lge. 96, Mills Co. Sch. Lds. Sur. Loc.
Texas Co. No. 1 D. S. Wright, Lge. 115, Lab. 23, Potter Co. Sch. Lds. Drlg. 4,651 ft.

Coke County

Bernett Pet. Co. No. 1 J. R. Mims, sec. 39, Blk. W, T.&P. Sur. Pulling tbg. 1,861 ft.

Crane County

Gulf Oil Corp. No. 4 McKnight, sec 8 Blk. B-21, P.S.L. Sur. W.O.C. whipstock at 6,152 ft.
Gulf Oil Co. No. 2-B State-Lassiter, University Sur., Blk. 30, Sec. 27. W.O.C. 7-in. 2,921 ft.
Texas Co. No. 1-G Univ., sec. 7. Blk. 30, Univ. Sur. P.B. 3,380 ft.; tstg.

Crockett County

Short & Gillette No. 1 J. W. Owens, Jose Zunegas Sur. S.D.R. 1,936 ft.

Culberson County

Harry J. W. Niehaus No. 1 fee, Blk. 109, sec. 13, P.S.L. Sur. 1,800-ft. test. S.D. 2,500 ft.
Quito Oil Co. No. 1 Cameron Lbr. Co., sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. S.D. 2,030 ft.

Ector County

Fields et al No. 1 Owenwood, sec. 6, Blk. 44, T.&P. Sur. Drlg. 150 ft.
Landreth Oil No. 1-P Scarbauer, sec. 11, Blk. A, P.S.L. Sur. Comp.; 629 B.O. P.D.
Sinclair Prairie No. 2-B P. Moss, sec. 40, Blk. 44, T.&P. Sur. Drlg. 3,897 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. Fsg. 3,-571 ft.

Gaines County

Osage Drlg. Co. No. 1 B. E. Miller, sec. 281, Blk. G, W.T.R.R. Sur. S.D.O. 5,-507 ft.

Garza County

Gulf Oil Corp. No. 1 Swanson, sec. 25. Blk. 2, H.&G.N. Sur. Drlg. 7,135 ft.

Hockley County

Gulf Oil Co. No. 2 Mallett, Lge. 34, Labor. 25. Drlg. 5,028 ft.; 3,000 ft. O. I.H.
Sid W. Richardson No. 2 Slaughter, Lge. 39, Lab. 58, Maverich Sur. Flwg. by hds.; T.D. 4,984 ft.
Snowden & McSweeney No. 1 A. A. Slaughter, Zavalle C.S.L. Sur., Lge. 35, Lab. 74. Spd.
Skelly Oil Co. No. 1 Elwood Est., Howard C.S.L. Sur., Lge. 15. D.&A. 5,183 ft.

Howard County

Anderson & Prichard No. 1 H. Hyman Est., sec. 85. Blk. 20. W.&N.W. Sur. Drlg. 1,175 ft.
Lockhart Pet. Corp. No. 2 Robert Scott, W.&N.W. Sur., Blk. 29, Sec. 86. P.B. 2,940 ft.; C.O.; 1,900 ft. O.I.H.
W. B. Powell, Trustee, No. 1 Guitar Trust, Blk. A. sec. 17, Bauer & Cockrell Sur. Drlg. 2,920 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Drlg. 4,755 ft.
Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7, T.&P. Sur. U.R. 4,392 ft.

Jeff Davis County

Joiner Oil Corp. No. 1 Jones-Coffield S.D. 3,742 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.&W.T. Sur. Rng. 2½-in. for sqz. job; W.O.C. 4,450 ft.

Martin County

T. G. Shaw No. 1 H. H. Wilkerson, sec. 35, Blk. A, Bauer & Cockrell Sur. Spd.

Menard County

C. D. Haggerty No. 1 Callon, sec. 36, Jim Franz Sur. Rng. 5-in. 1,270 ft.

Pecos County

Geo. J. Greer No. 1 Price Est., Sec. 3, Blk. 12, H.&G.N. Sur. Rng. 10-in. 230 ft.
J. N. Gregory et al No. 1 Humble-O'Niell, H.&G.N. Sur., Blk. 10, Sec. 74. Drlg. 840 ft.
Humble O. & R. Co. No. 1 A. H. Robertson, Sec. 27, Blk. OW, T.C.R.R. Sur.; 4,500-ft. test. Drlg. wtr. well.
J. D. Kugle, Jr., No. 1 H. L. Cordz, sec. 101, Blk. 8, H.&G.N. Sur. Comp.; 53 B.O.P.D.
Magnolia Pet. Co. No. 1 McKee. P.B. 6,197 ft.; P.B. 6,180 ft.; tstg. 5,300 ft.
S. Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Fsg. 7,275 ft.
Thomason Prod. Co. No. 1 Notions, Sec. 1, Blk. 105, W. P. Howard Sur. Spd. and S.D. 71 ft.
Union Oil & Mining Co. No. 1 First Natl. Bnk. of Ft. Stockton, sec. 6, Blk. 9, H.&G.N. Sur. S.D. 1,760 ft.

Reagan County

Culbertson & Irwin No. 1 J. F. Nunn, Sec. 26, Blk. B, L.&S.V. Sur. Drlg. 1,180 ft.

Reeves County

Frankley & Rice No. 1 W. A. Tunstill, Sec. 10, Blk. 56, T.&P. Sur. Drlg. 1,135 ft.
Ohio Oil Co. No. 1 Papham, sec 18, Blk. 54, T.&P. Sur. Drlg. 3,027 ft.

Scurry County

Coffield & Guthrie No. 1 E. E. Spears et al, sec. 130, Blk. 97, H.&T.C. Sur. Bailing 3,107 ft.
Gursham-Hunter No. 1 C. M. Wellborn, sec. 142, Blk. 25, H.&T.C. Sur. Drlg. 2,135 ft.; last report.

Sterling County

J. W. Sward No. 1 Brennand, sec. 107, Blk. 2, H.&T.C. Sur. S.D.O. 3,011 ft.

Stonewall County

General Crude Oil Co. No. 1 J. D. Smith, sec. 371, Blk. 2, H.&T.C. Sur., 12 mi. N Rotan. Drlg. 4,854 ft.
Swanson & Parriott No. 1 H. T. Carlisle, sec. 293, Blk. D, H.&T.C. Sur. S.I. 5,-176 ft.; installing separator.

Terrell County

Schermerhorn Oil No. 1 H. P. Allison, sec. 22, Blk. B-2, C.C.S.D. & R.G.N.G. Sur.; 2,500-ft. test. S.D. 1,420 ft.

Tom Green County

Spinner No. 1 Reed, Mason Ferry Ranch. Sur. Drlg. by bailer 4,414 ft.
J. B. Watson No. 1 Llano, C.S.L. Sur., Sec. 16; 500-ft. test. Drlg. 2,250 ft.

Val Verde County

A. W. Little No. 1 R. W. Sellers, sec. 34, H.&G.N.R.R. Sur. 1,500-ft. test. Drlg. 200 ft. last report.

Ward County

Herschel M. Jaffe No. 1 Viola Meyers, Sec. 17, Blk. 32, H.&T.C. Sur. Drlg. 40 ft.
Peerless O. & G. No. 1 F. M. White, sec. 36, Blk. 1, H.&T.C. Sur. S.D.O. 2,-276 ft.

Winkler County

S. W. Richardson No. 1-A J. M. Broshara, Sec. 22, Blk. 77, P.S.L. Sur. Drlg. 50 ft.
J. R. Sharp No. 1 Sharp-Crume, sec. 7, Blk. B-2, P.S.L. Sur. Drlg. 832 ft.
J. R. Sharp No. 2 Sharp-Crume, sec. 7, Blk. B-2, P.S.L. Sur. Loc.

Yoakum County

Gulf Oil No. 1 Lucy K. Moore, sec. 897. Blk. D. Comp.; 464 B.O.P.D.
Magnolia Pet. Co. No. 1 Lynn, sec. 770. R.U.S.T. 4,785 ft.
Phillips Pet. No. 1 W. A. O'Brien, sec. 442. D.&A. at 5,506 ft.
S. C. Yingling et al No. 1 Nettie Barrier, Sec. 6. S.D.R. 2,680 ft.

TEXAS PANHANDLE

Carson County

Texhoma Nat. Gas Co. No. 1 J. M. Poling, Sec. 30, Blk. Y-2, T.&T. Sur. S.G. 2,914-3,058 ft.; sour gas; S.D. 3,058 ft.

Childress County

Aggers & Stewart No. 1 Schulter, Sec. 422, Blk. H, Waco & Northwestern Sur. S.D. 6,007 ft.

Collingsworth County

White No. 1 Wischamper. S.D. 2,263 ft.
Johnson No. 1 Taylor. S.D. 875 ft.

Deaf Smith County

Uscan No. 1 Farwell. S.D. 5,650 ft.

Donley County

Robinson No. 1 Kuteman, Sec. 88, Blk. 20, H.&G.N. Sur. R.U.S.T. 2,840 ft.

Floyd County

Mills Bennett No. 1 Montgomery, F. J. Latham Sur., 6 mi. S of Floydada. S.D. 5,960 ft.

Gray County

Lone Star Gas Co. No. 1 Fowler. S.D. 2,730 ft.
English No. 1 Eudy. S.D. 3,977 ft.

Hardeman County

Hillsboro Oil Co. No. 1 Thomas, Sec. 314, Blk. H. Loc.

Kent County

B. Dolman et al No. 1 C. V. O'Keefe, Sec. 50, Blk. 1. 15½-in. csg. set at 140 ft.; drlg. at 180 ft.

Lipscomb County

M. C. Tieman No. 1 Spangle, Sec. 626, Blk. 43, H.&T.C. Sur. S.D. 50 ft.

Parmer County

Jennings No. 1 Wilson, Sec. 73, Blk. H, Kelly Subd. Loc.

Potter County

Sinclair Prairie Oil Co. No. 1 Bush, Sec. 23, Blk. 6, B.S.F. Sur., about 3 mi. N of Amarillo; 8,500-ft. test. Drlg. 3,-300 ft.; S.G. 3,194 ft.

Roberts County

Whitlock No. 1 Cunningham. S.D. 2,-750 ft.

E. C. TEXAS WILDCATS

Anderson County

J. H. Gardner No. 1 G. W. West, L. Hopkins Sur., 2 mi. SE of Denison Springs. Drlg. 4,968 ft.
H. L. Hunt No. 1 Shaw & Cern, D. Parker Sur. Tstg. 5,350 ft.

Angelina County

W. C. Atkinson No. 1 So. Pine Lbr. Co., T.&N.O. Sur. No. 14, 9 mi. SW of Lufkin. Bldg. roads.
J. C. Bonham No. 4 Cameron Lbr. Co., E. Miller Sur., 7 mi. SE of Zavalla. Loc.

Cherokee County

R. Bunn Drlg. Co. No. 1 Bolin, W. A. Walter Sur., 3 mi. SE of Lone Star; 3,000 ft. E of Bunn No. 2 Bounds. Loc.

Falls County

M. H. Hayes No. 1 A. Garrett, J. M. Sanches Sur., 2 mi. NE of Lott field. Pmp. 24 B.O.P.D.; tstg. 1,366 ft.; 30 B.O.P.D. 1,271 ft.

Franklin County

V. A. Hughes No. 1 W. E. Haydon, W. Landrum Sur., 1 mi. SE of Hagansport. R.U.P. 4,345 ft.

Freestone County

G. Shryock No. 1 M. S. Clark, M. D. Canton Sur., 8 mi. NW of Teague. S.D. 1,339 ft.

Gregg County

Humble-Gulf No. 1 Porter Hortor, H. G. Hudson Sur., 3½ mi. SW of Longview; 7,500-ft. test. Drlg. 5,284 ft.

Henderson County

McElreath & Suggett No. 1 T. L. Dean, C. M. Walters Sur., 1 mi. W of Athens. R.U.
Texas Co. No. 1 R. L. Tarkington, W. K. Newell Sur., ½ mi. SE of outpost to Flag Lake pool. Top sd. 3,008½ ft.; T.D. 3,032 ft.

Hill County

J. M. Russell No. 1 H. F. Holland, S. C. White Sur., 1 mi. SE of Abbott. Drlg. 295 ft.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. Drlg.
W. S. McGee No. 1 Pritchett, J. Hendricks Sur., 7 mi. W of Mabank. S.D.; W.O. 3,100 ft.
J. F. McLaughlin No. 1 Wood-Nash, J. C. Cortez Sur., ¾ mi. SE of Scurry. Drlg.
W. G. Martin No. 2 W. G. Martin, W. F. C. Butler Sur., 2½ mi. NE of Kemp. M.I.R.

Lamar County

Dahl Bros. & Barr No. 2 McQuiston, R. Russell Sur., ½ mi. N of Paris. R.U.

Leon County

Lone Star Gasoline Co. No. 1 Steve Pate, D. J. Haskins Sur., 8 mi. SE of Buffalo gas area. R.U.
T. J. Tucker No. 1 Same Vane, James Webb Sur., 4½ mi. SE of Keechi. S.D. 100 ft.
Wynne Drlg. Co. No. 1 H. L. Brown, Joseph Brown Sur., ¾ mi. NW of Keechi and on Sinclair Prairie farmout. Drk.

Limestone County

J. A. Johnston No. 2 Speight, H. Varella Sur., 5 mi. S of Mexia. Cg. 3,480 ft.
Strowd Gas Co. No. 1 S. Adkins, A. Varella Sur., 1 mi. W of Groesbeck. M.I. new rig 130 ft.

McLennan County

J. C. Kilgore No. 1 Tom Motis, R. D. Price Sur., 4 mi. E of town of West; shallow test. Loc.
Lisle Steele No. 1 C. H. Cherry, M. Martinez Sur., 4½ mi. SE of Waco. S.D. 1,300 ft.

Madison County

W. C. Holleman No. 1 D. C. Cannon, J. P. Phillips Sur., 7 mi. NW of Madisonville. R.U.

Nacogdoches County

C. W. Voyles et al No. 1 M. E. Rider. O. W. Randall Sur., 3 mi. E of Caro. D.&A. 4,285 ft.

Navarro County

Howze Oil No. 1 J. A. Jackson, R. C. Doon Sur., ½ mi. E of Powell. D.&A. 3,215 ft.

Rains County

McKinley & Hastings No. 1 McTaggert, B. Milder Sur., 1 mi. W of Emory. Loc.
Parsons & Andree No. 1 F. H. Glass, E. E. Lawhorn Sur., 1¾ mi. SE of Point. S.D. 3,880 ft.

Red River County

Daniels et al No. 1 J. J. Gaston, J. Guest Sur., 2 mi. S of Detroit. S.D. 500 ft.
Walters et al No. 1 Phamplin, W. Moore Sur., 3 mi. SE of Kanawha in NW part of county. S.D. 555 ft.
C. E. Whitehead No. 1 R. H. Ringwald, A Moore Sur., 1 mi. NW of Manchester S.D. 630 ft.

Rusk County

Drake Drlg. Co. No. 1 R. L. Needham, J. H. Chambers Sur., 3 mi. S of Laneville. M.I.M.

Smith County

Combest et al No. 1 Dora Kendall; J. Williams Sur., 1¼ mi. SW of Jamestown. S.D. 3,226 ft.

Van Zandt County

W. S. King No. 1 Edna W. Watson, M. G. Whitaker Sur., 5 mi. S of Grand Saline. Drlg. 1,415 ft.

NORTH TEXAS WILDCATS

Archer County

Fain-McGaha No. 1 McCrory G, sec. 44. A.T.N.C.L. Sur. 6⅝-in. csg. 4,720 ft.; O.S. 4,727-60 ft.; shot 40 qts.; pmpg. 10 B.P.H.
Helmerich & Payne et al No. 2 L. F. Wilson, Blk. 25, A.T.N.C.L. Sur. Testing at 5,105-16 ft.
Panhandle Ref. Co. et al No. 1 H. O. Prideaux, A. Rohus Sur. A-1126. Drlg. 3,710 ft.; S.S.O. 3,267 ft.
Louis Sikes et al No. 1 Ford, T. M. Cecil Sur. A-982. 4,500-ft. test; Tstd. S.W.; S.D.O. 4,204 ft.

Baylor County

J. Rogers No. 1 C. F. Elam et al, J. Smith Sur. A-285. S.D. 1,492 ft.
H. F. Wilcox No. 1 J. E. Fritz, D. Barlow Sur. A-10. R.U.R.

Clay County

L. T. Burns No. 1 Lyles. S.A.U.A. Sur. No. 403. S.S.O. 4,038-60 ft.
Walter Gant No. 1 Bryant Edwards, S. C. Beldon Sur. A-12, 6,000-ft. test. 6⅝-in. 5,990 ft.; S.L. 5,994-6,016 ft.; drlg. plug and bailed O.S.; P.B. T.D. 6,034 ft.
Wood Pet. & Roy. Corp. No. 1 I. H. Kempner, Blk. 44, Bosque Co. Sch. Ld. Sur. A-10. S.D.O. 2,330 ft.

Cooke County

Bin Indian Oil Co. No. 1 Alexander, T. Clevenger Sur., Abst. 1133. Loc.
Sinclair Prairie Oil Co. No. 1 Mrs. J. D. Putnam, T. W. Ward Sur. No. A-1089. B.S.S.O. 4,970-83 ft.; tstg.

Grayson County

O. L. McDougal No. 1 Jackson, H. Coffee Sur., Abst. 204; 4,000-ft. test. Loc.
Mildred Oil Co. No. 1 L. C. Neatherly, Chas. Quillen Sur. S.S.O. 3,972-3,905 ft.

Hardeman County

Hillsboro Oil Co. No. 1 Thomas, sec. 314 W.&N.W. Sur. Spd. and S.D.

Jack County

Noah Daves No. 1 K. D. Baker, sec. 2709, T.E.&L. Sur.; 4,000-ft. test. S.D.O. 2,-285 ft.

Knox County

Rosser Pendleton and I.T.I.O. No. 1 G. H. Beavers, Sec. 151, H.&T.C. Sur. U.R. 6⅝-in.; T.D. 2,801 ft.

Montague County

H. H. Powell No. 1 Arch Durham, W. J. Wagoner Sur. A-936. S.D. 822 ft.
Sinclair Prairie No. 1 Hill, Blk. 71, L. C.S.L. Sur. Drlg. 1,310 ft.
J. W. Sorrell et al No. 1 J. E. Walthall, Sam H. Smith Sur. A-662. S.D. 3,777 ft.

Wichita County

Continental Oil Co. No. 1 State Ins. Asylum, Blk. 1, Cherokee Co. Sch. Ld. 6⅝-in. 5,075 ft.; SL 5,076-5,128 ft.; drlg. plug; flwd. 90 bbls. in 3 hrs.; trtd. with 8,000 gal acd.; est. 150 B.P.D.; S.O. 5,344-81 ft.; tstg.

Wilbarger County

Consolidated Oil Co. No. 1 Ancell, sec 35, H.&T.C. Sur. 10-in. 112 ft.; drlg. 1,000 ft.
Target Drlg. Co. No. 1 W. T. Waggoner, Sec. 27, H.&T.C. Sur., Blk. 6. D.&A. 4,417 ft.

Young County

Homestead O. & G. Co. No. 1 Stephens, M. Dobbs Sur., Abst. 1416. Drlg. 2,-095 ft.
Horwitz & Oldom No. 1 C. J. Taach B, sec 248, T.E.&L. Sur. Drlg. 3,605 ft.; 6⅝-in. 4,113 ft.; G.L. 4,113-36 ft.; show oil; drlg. plug; small S.O.; S.D.O. 4,218 ft.
R. V. Tidewell No. 1 J. N. Ivey, F. L. Green Sur., Abst. 105. Drlg. 295 ft.
Union Prod. Co. No. 1 Corley, J. F. Clard Sur., Abst. 2202. Tstg. S.S.O. 3,869-73 ft.

Wise County

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Lds. Loc.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

Buckler No. 1 Jacobs, Kerr Co. Sch. Lds., Abst. 278. D.&A. 1,568 ft.
Evans No. 1 Garms, sec. 12, Blk. 1-11, H.&T.B. Sur. D.&A. 1,032 ft.
Hightower O. & R. Co. No. 1 Payne, sec. 31, H.&T.C. Sur. Drlg. 1,280 ft.
Lynn & Jordan No. 1 Eades, J. West Sur., 7 mi. SW of Santa Anna. S.D.R. 415 ft.
Whatley No. 1 Browder, C.T.R.R. Sur., Abst. 281. Drlg. 1,815 ft.

Callahan County

Cooper, Weeks & Hughes No. 1 C. D Straley 660 ft. from W L, 1,880 ft from N L, sec. 370, Geo. W. Denton Sur. Ordovician test. Drlg. 4,505 ft.
Dobbs Oil Co. No. 1 Finley, sec. 75, Bayland Orphans Home Ld. Drlg. 1,200 ft.
J. H. Howell No. 1 E. I. Vestal, 1,149 ft. E line, 1,000 ft. N line Jesse Dyson Sur., 2 mi. NE Cross Plains. W.O.C. 3,768 ft.

Coleman County

Anzac Oil Corp. No. 1 Burk, A. Williams Sur. Est. 15 B.O.P.D. 2,458 ft.; T.D.
F. L. and E. R. Cooper No. 1 W. R. Stockard, 330 ft. from NL, 330 ft. from WL, N½ SE¼ sec. 23, T.&N.O. Sur. Rotary to 3,650 ft.; S.D.; T.D. 3,657 ft.; S.O.
Garrett Oil Co. No. 1 W. S. Smith et al, 4 mi. SE of Coleman, J. Thiele Sur. H.F.W.; est. 2,000,000 ft. gas; S.D. 2,-210 ft.
Bob Murray No. 1 Dibrell, H. Kigan Sur., near Camp Colorado. P.B. 2,840 ft.; tstg.; old T.D. 2,865 ft.

Comanche County

Compton No. 1 Griffin, Blk. 2, Comanche Co. Sch. Lds. S.D. 2,175 ft.
Elmore No. 1 Moorman, sec. 37, D.D.& A. Sur., 3 mi. NE of Sipes Spgs. M. I.M.
Loraine No. 1 Halle, sec. 9, Blk. 3, H. &T.C. Sur. Tstg. 2,707 ft.
Sells Pet. Co. No. 1 Smith, sec. 12, Blk 2, H.&T.C. Sur. T.D. 2,614 ft.; W.O. C.; S.O.

Eastland County

Baker No. 1 Mullroy, sec. 1, Wm. Ahrenbeck Sur., 5 mi. NW of Rising Star. Tstg.; T.D. 3,000 ft.
Dobbs Oil Co. No. 1 Greer, J. E. Hardy Sur., Ellenburger test. Drlg. 1,100 ft.
Hickok P. & D. Co. No. 1 Penn, Sec. 468, S.P. Sur. Rig.

Erath County

McGee Dev. Co. No. 1 Till Robinson, Wm Ashworth Sur., 2 mi. SE of Desdemona Drlg. 2,750 ft.
Wayne Chandler No. 1 Chandler. Drlg. 675 ft.

Fisher County

Forest Dev. Co. No. 1 Morrow, sec. 48, Blk. 2, H.&T.C. Sur. Cg. 4,060 ft.
Owens-Snebold & A. C. Varner No. 1 J. H. Millsap, 3,500-ft. wildcat, 2 mi NW McCaulley, 330 SL 330 WL sec 61-2, H.&T.C. Sur. S.D.R. 1,210 ft.
T. G. Shaw Oil Corp. and Texas Co. No. 1 John Stribling, sec. 110, Blk. 3, H.&T.C. Sur. Drlg. 3,773 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. No. 51. S.D.; csg. 329 ft.

Haskell County

Fain-McGaha Oil Corp. No. 1 T. G. Hendrick, C W½ sec. 104, Indianola Ry Sur. S.D. 3,089 ft.; sulfur wtr.
Forest Dev. Co. No. 1 Bankers Life Co., J. F. Morgan Sur. No. 59. S.D. O. 3,850 ft.
Heenam & Coe No. 1 Jones, Corryell Co. Sch. Lds. Drk.
Indian States No. 1 Jones, Coryell Co. Sch. Lds. Drlg. 1,650 ft.
Marland Drake No. 1 Cob, J. F. Benson Sur. No. 96. Loc.

Jones County

Brown Eagle Oil Co. No. 1 Haynes, sec. 191, Lemuel Andrews Sur. U.R. 1,750 ft.
Dunigan Bros. and Fred Hyer No. 1 Gaither, 4½ mi. N of Anson sec. 38. B.B.B.&C. Sur. Drlg. 3,314 ft.
R. B. Farris No. 1 Chas. Donohoo, 220 ft from S and E lines. N½ sec. 5, B.B.B &C. Sur. S.D. 2,090 ft.
Grisham-Hunter Corp. No. 2 E. D. Appling, 1,140 ft. fr. E L, 1,208 ft. S L, NW¼ sec. 32, B.B.B.&C. Sur. Set csg. 2,350 ft.; S.O.
S. C. Herring No. 1 B. L. Ellis, 330 ft. fr. N and E lines, SE¼ sec. 8-15, T.&P. Sur. Loc.
Humble O. & R. Co. No. 1 Huddleston, sec. 49, Blk. 18, T.&P. Sur. Drlg. 2,450 ft.; S.O. 2,405-10 ft.
C. B. Lynn No. 1 C. P. Poe, L. Katz Lee Sur. No. 335. Drlg. 1,600 ft.
Pet. Producers No. 1 McDuff, sec. 32, Blk. 15, T.&P. Sur. Drlg. 1,710 ft.
S. B. Roberts Co. No. 1 Roy E. Prichard, 205 ft. fr. S L, 2,428 fr. E L, J. E. Cockrell Subdiv. 2, G. Martinez Sur 195. Loc.
Sinclair Prairie No. 1 Williams, sec. 40, Blk. 18, T.&P. Sur. U.R. 865 ft.

Nolan County

Oyster, Harkrider et al No. 1 J. H. Withers, C SW¼ sec. 65-21, T.&P. Sur. Wildcat to drill 4,000 ft. Tstg. 4,296 ft.

Shackelford County

Joe DeGrazier No. 1 Harbough, E cen. part of county, sec. 1,563, T.E.&L. Sur. 4,500-ft. test. S.D.O. 3,171 ft.
R. H. Gordon & Frank Pethybridge No. 1 C. B. Snyder, 330 ft. fr. N and E lines, sec. 38, L.A.L. Sur., 4,500-ft. test. Drlg. 2,800 ft.
J. G. Hammond No. 1 Coker, 1,620 ft. from S line and 1,020 ft. from W line, sec. 159, B.B.B.&C. Sur. Prep. U.R. 4,280 ft.
D. W. Power No. 1 Black Ranch, C SE 80 ac. of NE¼ sec. 391, T.E.&L. Sur., Ellenburger test.

Stephens County

Lone Star No. 1 E. H. Brooks, 400 ft. from S and W lines, NE 200 ac. of sec. 54-7 T.&P. Sur. Tstg. 2,000,000 ft. gas 3,723-27 ft.; drlg. cmt. on sqze. job 3,618 ft.
Lone Star No. 1 J. S. McKee, 660 ft. from N line, 660 ft. from W line, sec. 41-7, T.&P. Sur. U.R. 3,724 ft.

Taylor County

A. R. Forester et al No. 1 Frederickson, sec. 1, Guadalupe Co. Sch. Lds. Sur. No. 120. C.O. after shot 2,420 ft.
T. M. Knoles No. 1 Bowles, Sec. 21, B. A.L. Sur. Loc.

Throckmorton County

Beacon O. & R. Co. No. 1 Hawes Est., sec. 979, T.E.&L. Sur. Swbg. S.W. 4,070 ft.; T.D.
Jones & Stasney No. 1 C. T. Brockman 330 ft. S line, 330 E line sec. 95 Comanche Indian Sur. T.D. 4,706½ ft.; est. 1,000 to 1,500 B.O.P.D.; acd. 4,711 ft.; ga. 145 B.O. 2 hrs.; trying to shut off wtr.; T.D. 4,716 ft.
Marland-Drake No. 1 Dickie Bros., center T.E.&L. Sur. 2226. S.D. 4,085 ft.
Stasney et al No. 1 Hunt, sec. 965, T. E.&L. Sur. U.R. 1,628 ft.
Target Drlg. Co. No. 1 E. W. Hunt, Col. Co. Sch. Lds. S.D.O. 5,022 ft.
White & Duncan No. 1 Raynolds Cattle Co., 330 ft. from S and W lines, NE¼ sec. 83, Comanche Indian Reservation. S.D. 3,102 ft.

Canadian Fields

(Continued from Page 78)

besides requiring excessive storage for individual wells. Under the new schedule, several large wells will show decreases in production rate, while many smaller ones will show increases.

Saskatchewan Gasser

In the Lloydminster field, western Saskatchewan, Northern Utilities Co. No. 1, LSD 1, Section 26-49-28w3, blew in at 1,675 feet with gas flow estimated 8,000,000 feet a day. Location is 2 miles south of Lloydminster.

New Border Test

An important new test is being started on the Bridge dome in southern Alberta west of the Sweetgrass uplift by T. Boyd Kyle and associates, of Montana. Location is east of Coutts, on Milk River close to Weir bridge, in LSD 13, Section 4-2-13w4. The nearest previous test was Capitol Oil & Natural Gas Co. No. 1-A, in LSD 16, Section 32-1-12w4, about 5 miles east and a mile south, which drilled through the Ellis and Madison to the top of the Devonian around 3,480 feet, encountering numerous gas shows and three oil shows. Location is part of a 5,000-acre permit area geologized and seismographed since February, 1937. Drilling Contractors, Ltd., of Calgary, have a turnkey contract and have erected combination steel derrick, starting the test with heavy duty standard tools and 24-inch hole. It is planned to carry the test 300 feet into the Madison limestone, which is expected at 2,465 feet; with possibilities of oil or gas production in the Bow Island, Sunburst, Cut Bank and Ellis sands above the lime. The structure is north of the Bow and Arrow structure in Montana where the Kyle interests have already secured production.

Ontario Drilling

In Huron County, Ontario, Hidden Lake Oil Co., headed by W. L. Forrest, of Goderich, and John F. Daly, of Seaforth, has let contract to Jackson & McKillop for No. 1 on the Joseph and John Mann farm, Lot 16, Concession 4, Hullett Township. Huron & Bruce Oil Co. is arranging for a test on the Trewartha farm, north of Clinton and a couple of miles farther west. Production is expected inside 1,500 feet.

In Elgin County, Union Gas Co. No. 2 Malahide, Lot 94, South Talbot Road, Malahide Township, is swedging out drive pipe.

Nova Scotia Oil Show

In Cape Brenton, Nova Scotia, drillers seeking new submarine coal seams near Inverness encountered oil showings 2,200 feet under sea level and nearly 2 miles from the mainland. Oil was encountered in a coarse sandstone formation when the drill penetrated 233 feet horizontally on the west diagonal level of No. 9 Colliery. Samples were taken and the hole plugged. Reports of the strike were officially confirmed by Michael Dwyer, minister of mines for Nova Scotia, and Alan Cameron, deputy minister, stated that structural conditions were favorable for oil; though both cautioned against too much optimism. Though oil shale deposits are known to exist in Nova Scotia, extensive drilling has failed heretofore to disclose flowing oil; the nearest commercial production being in Albert County, New Brunswick.

Eastern Kentucky

(Continued from Page 86)

others are down 550 feet in No. 1 Lawrence Fairchild on Little Paint.

In Knott County, Inland Gas Corp. was drilling at 1,503 feet in No. 202 Elizabeth Adams in third Salt sand. The well is on the Right Fork of Troublesome Creek.

In Floyd County, Kentucky-West Virginia Gas Co. is setting machine at No. 574 John and Benjamin Lellars on Levisa Fork. The same company is drilling at 943 feet, in slate, in No. 575, Henry C. Slone farm on Levisa Fork.

In Johnson County, Kentucky-West Virginia Gas Co. is spudding at No. 576 Julia Ward land on Wiley Branch of Levisa Fork.

In Martin County, Kentucky-West Virginia Gas Co. is cleaning out No. 5242 on the C. W. Preece land and is building road to No. 5243, also on the Preece land, on Coldwater Fork. At last report Kentucky-West Virginia Gas Co. was down 2,910 feet in No. 5245 on the Preece land and is deepening No. 402 Spencer Slone in Big lime.

In Lee County, Burnett & Pruitt are down 600 feet in No. 7 on Day Timber & Coal Co. land; Ray Eastin at 300 feet in No. 1 R. J. McLyn land, both in the Hell Creek district. These wells offset each other. Rush Cable is down 370 feet in No. 9 E. S. Moore No. 1 farm. Price Fraley and others are drilling at 690 feet at No. 4 Flahaven Land Co. on Big Sinking, and South Penn Oil Co. is down 60 feet in No. 111 on the same Flahaven tract of land.

Gulf Coast Fields

(Continued from Page 69)

5,230-5,390 feet. Location is in Section 45-9s-2w. On the southwest flank, Shell Petroleum Co. cored oil sand at 6,066-92 feet, and was attempting to make a drill stem test. The well is on the Conover-Community lease. The sand section is approximately 1,000 feet higher than other wells in this area.

Fohs Oil Co. was preparing to run a protection string of 9⅝-inch casing in No. 5 State Lake Long, which is scheduled to be drilled to the 10,000-foot sand. The casing will be cemented between 8,750 and 8,775 feet where sandy shale, showing gas, was cored. The well is 1,320 feet south of No. 4 State and is reported to be 20 feet higher than No. 1 State Lake Long, and 30 feet lower than No. 4 State, which developed the new sand at 10,475 feet.

In the Gibson field, Terrebonne Parish, Shell Petroleum Corp. was attempting to make a drill stem test in a deep sand that was cored in No. 1 Kuntz, an outpost test in Section 40-17s-15e. The hole is bottomed at 10,557 feet and the drill stem test was being made with the seat of the testing tool set at 10,525 feet.

Another deep test was marked up as a failure for the Welsh dome, Jefferson Davis Parish, with the abandonment of Stanolind Oil & Gas Co. No. 1 Pousson at 7,020 feet. This is the third deep test to be drilled in search of flank production. The well is located in Section 28-9s-5w, southeast of two dry holes which were drilled on the west flank by Stanolind Oil & Gas Co. and Humble Oil & Refining Co.

In Vermilion Parish, Stanolind Oil & Gas Co. made location for No. 2 F. Stovall, a wildcat located in Section 88-14s-3e. The well is located on the South Abbeville prospect where the company's first test was abandoned at 12,133 feet.

COMPLETIONS ON TEXAS COAST

Brazoria County

Danbury field: Rowan Drilling Co. No. 7 Jameson, 1,997 feet, 220 bbls., quarter-inch choke. Hastings field: Stanolind Oil & Gas Co. No. 7 J. F. Law, perforated casing 5,988-6,026 feet, 595 bbls., quarter-inch choke. Stanolind Oil & Gas Co. No. 2 Schmidt, perforated casing 6,035-77 feet, 527 bbls., quarter-inch choke.

Galveston County

Dickinson field: J. K. Hughes No. 3 J. C. Eckert, perforated casing 8,741-60 feet, 720 bbls., quarter-inch choke. Pure Oil Co. No. 4-B Sealey-Hutchinson, sand 8,068-90 feet, 632 bbls., quarter-inch choke. High Island field: Stanolind Oil & Gas Co. No. 3-B Cade, sand 4,830-65 feet, 125 bbls., 9/64-inch choke.

Chambers County

Seabreeze field: Sun Oil Co. No. 3 Broussard-Hebert, 8,484 feet, 145 bbls. oil plus 25 per cent salt water.

Fort Bend-Wharton Counties

Boling field: Texas Co. No. 17-A Taylor, 5,464 feet, abandoned.

Hardin County

Batson field: Texas Gulf Producing Co. No. 4 Christian, perforated casing 2,030-50 feet, 62 bbls., gas lift.

Harris County

Clinton field: S. G. Harrison No. 1 Lafferty, 4,515 feet, abandoned. Sun Oil Co. No. 1 H. C. Oates, 4,614 feet, abandoned. Eureka field: Jack Frazier No. 4 Vollmer-Neiman, perforated casing 7,720-35 feet, 18 bbls. distillate and 15 bbls. salt water, eighth-inch choke. Fairbanks field: Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Berryman & Emmott, perforated casing 6,837-42½ feet, 343 bbls., 12 hours, quarter-inch choke; No. 3 M. E. Cougat, perforated casing 6,851½-55½ feet, 307 bbls., 12 hours, quarter-inch choke; No. 1 Marietta Francome, perforated casing 6,838-42 feet, 237 bbls., quarter-inch choke. Gem Oil Co. No. 5 B. W. Reid, perforated casing 6,846½-51½ feet, 182 bbls., quarter-inch choke. Skelly Oil Co. No. 2 J. H. Emmott, perforated casing 6,829½-37½ feet, 115 bbls., 12 hours, eighth-inch choke. Smith & Ownby Drilling Co. No. 3 Gibson, perforated casing 6,849-53 feet, 50 bbls., 12 hours, eighth-inch choke. Williams & Thompson No. 1 A. R. Kramer, perforated casing 6,840-48 feet, 610 bbls., quarter-inch choke. Friendswood field: Humble Oil & Refining Co. No. 1 Tinkler, sand 6,029-57 feet, 585 bbls., quarter-inch choke. Tomball field: Humble Oil & Refining Co. No. 4 Holderrieth, perforated casing 5,535-38 feet, 93,000 feet of gas, quarter-inch choke; No. 3-B Holder-

rieth, perforated casing 5,556-62 feet, 5 bbls. per hour, quarter-inch choke.

Jefferson County

Big Hill dome: Stanolind Oil & Gas Co. No. 5-A Pipkin-Davis, 8,290 feet, abandoned.

Matagorda County

Bay City field: Atlantic Refining Co. No. 1 Gola, perforated casing 8,131-35 feet, 417 bbls., quarter-inch choke.

Orange County

Orange field: Ryan & Thompson No. 2-A Chesson, 5,963 feet, 302 bbls., quarter-inch choke.

Liberty County

Esperson field: General Crude Oil Co. No. 39 Esperson, sand 4,124-34 feet, 182 bbls., quarter-inch choke. Hardin field: Atlantic Refining Co. No. 3 Richardson, perforated casing 7,590-95 feet, 503 bbls., quarter-inch choke. George Echols No. 1 J. H. Cessna, perforated casing 7,443-50 feet, 24 bbls., three-eighths inch bottom-hole choke. Glenn H. McCarthy No. 1 J. E. Johnson, perforated casing 7,584-7,616 feet, 32 bbls. distillate, quarter-inch choke. Shell Petroleum Co. No. 3 J. H. Cessna, 7,676 feet, abandoned. Tide Water Associated Oil Co. No. 2-A Cessna, perforated casing 7,619-39 feet, 518 bbls., quarter-inch choke.

Tyler County

Spurger field: Republic Production Co. No. 11 Hurd, perforated casing 7,663-83 feet, 574 bbls., quarter-inch choke.

Washington County

Brenham dome: Freeport Sulphur Co. No. 3 Sudenhouser, 2,385 feet, abandoned.

Wharton County

Spanish Camp field: Humble Oil & Refining Co. No. 1 Worington, 7,671 feet, abandoned.

Carter Oil Co. Donates to Road Building in Illinois County

VANDALIA, Ill., Aug. 29.—The Carter Oil Co., which has extensive lease interests in Fayette County, has contributed $11,000 to the county road funds for road building purposes this year and an additional $4,000 for maintenance to cover the period from September 1, 1938, to the same date next year. Attorney Walter Davison, representing the Carter Oil Co. and Oklahoma Pipe Line Co., said in respect to the donation that while the company was making no promises "should our development program be under way a year from now we will, in all probability, donate an additional amount for road improvements for the succeeding year."

The action of the Carter Oil Co. followed a talk on road matters by County Superintendent J. V. Waddell, who said:

"Since the inauguration of W.P.A. we have spent $1,000,000 on our state roads but these roads were not built for such traffic as has been made necessary by the oil development program. It will be at least three years before any appreciable tax money will be received on oil holdings in the county. Our roads in that section of the county have been damaged to a considerable extent and if not repaired before winter sets in they will be beyond repair."

In reply Mr. Davison said, "The Carter Oil Co. pays its way, and our company is accustomed to building and maintaining roads where a development program is under way. I admit we are the major offenders to road destruction in that area and we not only have no objections but we are glad to aid Fayette County in maintaining its roads."

The donation followed and was accepted by the County Board of Supervisors by a vote of 2 to 1.

California Oil Field Operations For July, 1938

According to figures collected by the American Petroleum Institute, the total production of crude oil in California for July amounted to 20,493,544 bbls., an average of 661,082 bbls. per day. This is a decrease of 11,261 bbls. per day under June production.

Total stocks of crude and all products in Pacific Coast territory increased during the month 1,510,830 bbls. The total stocks at the end of the month were 150,480,702 bbls. The total stock increase for 1938, up to July 31, was 22,440,455 bbls.

Ninety-two wells completed during the month with an initial daily production of 92,550 bbls., compared with 77 wells completed during June with an initial production of 76,936 bbls.

OIL FIELD DEVELOPMENT

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abd. wells: Drillers	Abd. wells: Producers
Group No. 1—							
Belridge—North	1	4	1	1,935	60	1	..
Belridge—South	..	..	..	.....	86	..	..
Canal	3	2	2	5,873	10	..	..
Canfield Ranch	..	1	..	.....	1	..	..
Coalinga	6	11	1	6,000	798	..	6
Edison	..	1	..	.....	85	..	..
Elk Hills	..	..	..	.....	170	..	..
Fruitvale	2	1	2	504	168	..	..
Greeley	..	2	..	.....	15	..	..
Kern River	4	3	3	75	1,346	1	..
Kettleman Middle dome	..	..	..	.....	3	..	..
Kettleman North dome	2	13	3	7,778	188	..	..
Lost Hills	1	2	1	160	233	..	..
McKittrick	..	1	1	225	212	..	..
Midway-Sunset	3	3	5	405	2,406	..	11
Mountain View	..	..	..	.....	192	..	2
Mount Poso	2	4	1	245	284	..	1
Rio Bravo	1	8	2	5,225	12	..	..
Round Mountain	1	1	4	1,044	187	1	..
Ten Section	2	4	3	5,269	25	..	..
Wasco	..	3	..	.....	2	..	..
Wheeler Ridge	..	1	..	.....	28	..	..
Group No. 2—							
Capitan	1	1	..	.....	48	..	..
Elwood	..	..	..	.....	81	..	1
Rincon	..	1	2	840	45	..	..
San Miguelito	1	2	..	.....	16	..	..
Santa Barbara	..	..	..	.....	34	..	..
Santa Maria	5	5	6	3,270	212	3	..
Summerland	..	..	..	.....	18	..	..
Ventura Avenue	1	10	1	1,473	221	..	..
Ventura-Newhall	2	9	1	1,692	550	..	1
Watsonville	..	..	..	.....	7	..	..
Group No. 3—							
Brea-Olinda	..	1	..	.....	336	..	..
Coyote—East	..	..	..	.....	86	1	..
Coyote—West	1	2	..	.....	57	..	..
Dominguez	1	3	..	.....	193	..	..
El Segundo	1	2	2	1,445	63	..	1
Huntington Beach	..	..	1	85	559	..	..
Inglewood	..	..	..	.....	206	..	..
Lawndale	..	..	..	.....	6	..	..
Long Beach	1	4	1	175	1,262	..	2
Los Angeles-Salt Lake	..	..	..	.....	113	..	..
Montebello	4	10	5	5,228	227	..	..
Newport	..	1	..	.....	.....	..	..
Playa Del Rey	..	..	..	.....	195	..	1
Potrero	..	..	..	.....	12	..	..
Richfield	..	4	1	150	297	1	..
Rosecrans	5	4	6	7,969	97	1	1
Santa Fe Springs	..	..	..	.....	614	..	3
Seal Beach	..	..	..	.....	113	..	..
Torrance	34	36	11	5,224	558	..	..
Whittier	..	..	..	.....	142	..	..
Wilmington	15	24	25	30,261	532	..	..
Miscellaneous drilling	8	47	..	.....	.....	7	..
Group No. 4—gas fields—							
Buena Vista Lake	..	1	..	.....	1	..	..
McDonald Island	..	..	..	.....	4	..	..
Rio Vista	..	..	1	Gas	14	..	..
Total July	108	232	92	92,550	13,430	16	30
Total June	83	219	77	76,936	13,581	18	7
Increase	25	13	15	15,614	*151	*2	23

*Decrease.

CRUDE PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

	Total production July	Daily average July, 1938	Daily average June, 1938	Daily average July, 1937
Group No. 1—				
Belridge—North	359,672	11,602	12,078	15,056
Belridge—South	32,031	1,033	1,076	1,624
Canal	75,682	2,441	2,255	.....
Canfield Ranch	3,318	107	95	.....
Coalinga	308,884	9,964	10,173	16,120
Edison	83,418	2,691	2,920	4,352
Elk Hills	326,768	10,541	10,642	10,636
Fruitvale	234,122	7,552	8,852	9,109
Greeley	102,014	3,291	4,140	1,138
Kern River	357,959	11,547	12,170	16,093
Kettleman Middle dome	1,532	49	50	115
Kettleman North dome	2,057,265	66,363	67,652	79,567
Lost Hills	114,931	3,708	3,577	3,566
McKittrick	97,063	3,131	3,031	4,153
Midway-Sunset	1,829,450	59,015	59,270	73,953
Mountain View	307,056	9,905	11,487	18,412
Mount Poso	488,556	15,760	17,369	16,933
Rio Bravo	174,841	5,640	4,319	.....
Round Mountain	451,485	14,564	14,480	12,747
Ten Section	215,425	6,949	6,610	2,751
Wasco	11,946	386	391	.....
Wheeler Ridge	9,574	309	307	325
Group No. 2—				
Capitan	86,922	2,804	2,853	2,666
Elwood	179,212	5,781	6,667	8,656
Rincon	134,875	4,351	4,043	2,808
San Miguelito	74,367	2,399	2,515	3,609
Santa Barbara	12,558	405	422	651
Santa Maria	369,685	11,925	15,491	13,243
Summerland	869	28	37	34
Ventura Avenue	1,088,926	35,127	35,432	34,732
Ventura-Newhall	156,602	5,052	4,871	4,972
Watsonville	1,085	35	40	60
Group No. 3—				
Brea-Olinda	180,346	5,818	5,691	6,750
Coyote—East	105,818	3,413	3,515	4,067
Coyote—West	262,877	8,480	8,744	7,262
Dominguez	736,939	23,772	26,688	28,131
El Segundo	292,375	9,431	9,751	8,784
Huntington Beach	1,001,410	32,303	32,374	35,992
Inglewood	439,544	14,179	14,736	15,693
Lawndale	2,798	90	79	82
Long Beach	1,801,768	58,122	58,543	59,617
Los Angeles-Salt Lake	16,821	543	577	646
Montebello	332,304	10,719	11,037	8,765
Playa Del Rey	190,285	6,138	6,312	8,341
Potrero	24,861	802	852	207
Richfield	277,742	8,959	9,238	8,940
Rosecrans	324,925	10,482	7,986	3,395
Santa Fe Springs	1,018,023	32,840	33,731	43,544
Seal Beach	268,172	8,651	8,906	9,290
Torrance	501,949	16,192	14,180	7,591
Whittier	28,687	925	938	895
Wilmington	2,937,807	94,768	93,150	47,663
Total July	20,493,544	661,082	672,343	663,736
Total June	20,170,317	672,343	.....	.....
Decrease	*323,227	11,261	.....	.....

*Increase.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	July 31, 1938	June 30, 1938	July changes	Dec. 31, 1937 reclassified
1. Gasoline-bearing crude	33,022,559	33,156,394	— 133,835	29,417,842
2. Nongasoline-bearing crude	17,408,153	17,431,809	— 23,656	14,384,000
3. Unblended natural gasoline	3,312,990	3,190,274	+ 122,716	2,001,204
4. Gasoline (not including distributing and service stations)	12,145,707	12,975,245	— 829,538	13,520,678
5. Naphtha distillates	*1,377,637	*1,496,083	— 118,446	*1,464,577
6. Gas oil and Diesel oil	10,017,467	9,669,433	+ 348,034	8,648,990
7. Fuel oil residuum	67,079,040	65,252,861	+1,826,179	54,145,388
8. All other stocks	6,117,149	5,797,773	+ 319,376	4,457,568
Total	150,480,702	148,969,872	+1,510,830	128,040,247
*Estimated amount of unfinished gasoline contained in item No. 5	1,175,980	1,302,349	.....	1,248,291

PERSONAL

HENRY E. GROSS has been appointed associate professor of petroleum engineering at Texas A. & M. College. The past two years he was teaching at the University of Oklahoma.

CHARLES F. ROESER, of Roeser & Pendleton, president of the Independent Petroleum Association, is improving at Cook Memorial Hospital in Fort Worth, Tex., where he has been for several days.

GEORGE G. LAW, petroleum engineer with the U. S. Geological Survey in Denver, Colo., has been transferred to California, with headquarters at Taft. J. B. MITCHELL, who was with the survey in California, has been transferred to Denver, where he will be district engineer in charge of the oil and leasing division.

L. E. BARROWS, Houston manager of the producing department of the Texas Company, left last week for an extended trip through the Illinois fields.

J. L. McPHERSON, district drilling and production superintendent for the Sun Oil Company in Houston, Tex., is spending his vacation in West Virginia.

E. H. LEROUX, retired president of the Oklahoma Pipe Line Company, and MRS. LEROUX are on a vacation outing in Colorado Springs and Estes Park.

FRANK PIERCE, industrial relations manager for the Standard Oil Company of New Jersey, sailed from New York August 26 aboard the Santa Rosa for Curacao.

COL. T. H. BARTON, president of the Lion Oil Refining Company, El Dorado, Ark., is spending his vacation in California. T. M. MARTIN, vice president, is on vacation in Montana.

WILLIAM J. NOLTE, chief geologist for the Stanolind Oil & Gas Company, Fort Worth, Tex., is back at his desk after several weeks' vacation in Michigan and along the Great Lakes.

ARTHUR T. ROBERTS, treasurer of the Socony-Vacuum Oil Company, Inc., New York, has assumed also the office and duties of comptroller, following the resignation from that post of RODNEY S. DURKEE, who has gone to California.

ARTHUR C. SIMMONS, waterflooding engineer and president of the Simmons Oil Corporation, Bradford, Pa., and MRS. LAURENCE C. BEMIS, Oil City, Pa., are to be married in early October. Announcement of their engagement was made last week.

LESLIE B. RIGGINS, JR., formerly subsurface engineer for the Union Oil Company in the Dominguez field of California, is now working with the California State Department of Education in introducing extension classes in vocational training for field men in cooperation with the A.P.I.

COL. JOSEPH W. McINTOSH, comptroller of the currency from 1924 to 1928, was named a director of the Pure Oil Company at a meeting of the board of directors in Chicago last Friday. Colonel McIntosh, a native of Macomb, Ill., succeeds the late Warren C. Fairbanks. Colonel McIntosh was director of finance for the U. S. Shipping Board Emergency Fleet Corporation from 1920 to 1924. He served in the U. S. Army both in the United States and in France, Italy and the Balkans from 1917 through 1920.

ALFRED F. SMISSEN, of the French Development Corporation, Oklahoma City, who went to Mexico City on a business mission several weeks ago, is back at his desk in the Ramsey Tower.

NICHOLAS V. V. FRANCHOT, oil man, banker, and first mayor of Olean, N. Y., where he resides, observed his eighty-third birthday August 21 at his country estate in Morris, N. Y., where he, his father, and his grandfather were born. Relatives and close friends were guests. Mr. Franchot started in the oil business in Millerstown, Pa., at the age of 20 after his graduation from Union College, of which he is a trustee. He was a delegate to the Republican national conventions of 1892, 1896, and 1904. Mr. Franchot is still getting production from his first oil well, drilled in Butler County, Pennsylvania, in 1878. He has been a producer in California, Kansas, Oklahoma, Texas, Ohio, Indiana, Pennsylvania, West Virginia, and New York. He has retained interests in Pennsylvania and Oklahoma. He is chairman of the board of the Exchange National Bank, of Olean.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Thomas P. Byron, oil man and short story writer, is killed in an automobile accident at St. Marys, Pa. Everybody's Magazine characterized Mr. Byron as "the successor of O. Henry."

Clint Moore's friends are trying to induce him to run for Congress from his Oklahoma district. The veteran Bartlesville producer says he served one term in the Oklahoma legislature, and was cured of politics.

F. L. Blackmar, 71, pioneer lawyer and oil man, dies in Sistersville, W. Va.

Henry W. Locke, noted oil region tool maker, dies in Charleston, W. Va., age 65 years.

20 YEARS AGO

Ned Palmer, Mineral Wells, Tex., oil operator, and Frank Fortenberry, Fort Worth, Tex., oil man, and their chauffeur, were killed in Fort Worth when their automobile crashed head on into a street car.

Fuel Administrator Garfield is discouraging pleasure driving on Sunday in order to conserve gasoline for war purposes.

James Howard Carey, manager of the right of way department of the Peoples Gas Company, dies in Pittsburgh, Pa., age 73 years.

10 YEARS AGO

The world's deepest oil well is in Regan County, Texas, bottomed at 8,255 feet. The well has made several flows of 100 barrels each at this depth.

Standard Oil Company of New Jersey announces the establishment of an aviation department.

Magnolia Petroleum led all Oklahoma producers in the first six months of 1928 with 6,957,393 barrels. Gulf Production led all Texas producers with 12,905,125 barrels, and the Gulf organization (Gulf Production Company and Gypsy Oil Company) led all Texas-Oklahoma producers with 19,194,070 barrels.

ERWARD C. O'CONNOR, Dallas, Tex., consulting engineer of the Lone Star Gas Company, is on vacation in California.

NORMAN E. MAXWELL, geologist and petroleum engineer for the Cities Service Oil Company in Titusville, Pa., has been transferred to Bartlesville, Okla.

A. S. BAILEY, vice president and assistant manager of the Texas Pipe Line Company, Houston, Tex., is in Sweden to attend the wedding of a son.

G. C. FRANCISCO, JR., district land man for the Sun Oil Company in Houston, Tex., will return this week from a vacation spent at Rockport in the lower Gulf Coast.

W. D. ANDERSON and N. N. HARRIS, Fort Worth, Tex., independent oil operators, have left for Illinois to look over field developments. Both have done considerable wildcatting in West Texas.

G. F. von KROGH, of Hamburg, Germany, recently celebrated his fiftieth anniversary in the oil business. He is general manager of the Eagle Oil Company of Hamburg and New York.

JOHN McFAYDEN, vice president in charge of western operations for the Ohio Oil Company, with headquarters in Casper, Wyo., is on location at the company's Willow structure wildcat in Glenn County, California. He was called there to supervise the task of testing the second well, which promises to bring in a new gas field in the Sacramento Valley, and of drilling and drifting in a directional hole to kill the initial well, which again began blowing up through the crater that swallowed the rig last January.

PARAGRAPHS

E. W. ADAMS, geologist for the Honolulu Oil Company in San Francisco, has returned from a vacation spent with his family on the South Fork of the Trinity River in the Coast Range near Forest Glen, Calif.

MAX APP, of the General Petroleum Corporation, has been holding down W. L. BOROUGH'S position as general superintendent of the production department during the latter's absence. R. R. (DICK) SHINN is in charge of both the Central Midway and Kern divisions, in San Joaquin Basin, for Mr. App.

EDWARD G. SEUBERT, president of the Standard Oil Company of Indiana, is among the 1,312 employes receiving gold service pins in 1938. Of the total, 733 pins will be for 10 years, 525 for 20 years, 46 for 30 years, and 8 for 40 years. Mr. Seubert is in the last-named group. He actually has been with the company 46 years, but owing to interruption in 1897, the continuous service record dates from 1898.

E. McCUNE, superintendent of the land department for the Sun Oil Company, Dallas, Tex., has left for a two weeks' vacation trip in Colorado.

T. J. DONOGHUE, executive vice president of the Texas Company in Houston, Tex., is on an extended vacation trip through the eastern states.

W. L. JAMES, purchasing agent for the Stanolind Oil & Gas Company, Tulsa, is back from a vacation outing with his family at Lake of the Ozarks, in Missouri.

JOHN F. CAMP has changed the name of his firm from John F. Camp Drilling Company to Martha Oil Company. Offices will continue to be in San Antonio, Tex.

W. K. WARREN, president of the Warren Petroleum Corporation, Tulsa, has gone to Lake Junaluska, N. C., where MRS. WARREN and their children are spending the summer.

FRED T. HILDT, Tulsa, for years active in the royalty business, will be located for the next six months in Owensboro, Ky., where he is moving in a rig and will drill several wells.

F. G. CLARK, general foreman of boilermakers and welders for the Standard Oil Company of Louisiana in its Baton Rouge, La., refinery, rounded out 30 years of service with the company August 28. He has been at the Baton Rouge plant since 1909.

F. C. EMBSHOFF, newly appointed general auditor for the Shell Petroleum Corporation, with offices in St. Louis, Mo., was to take up his new duties September 1. Mr. Embshoff was previously office manager of Shell's Houston office, where he will be succeeded by EDWARD H. MUELLER, of St. Louis.

BART W. GILLESPIE, formerly construction engineer for Ganzo Azul Compania de Petrolio at Agua Caliente, a wildcat location in the Peruvian jungles, has become a development engineer for the Drilling & Exploration Company of Los Angeles, Calif.

WILLIAM O. MAGUIRE, president of the Missouri-Kansas Pipe Line Company, has refused a two-year contract to act as general manager of the company and an option to purchase 100,000 shares of the company's stock, proffered him by the board, according to the New York Herald Tribune. "In a letter to the board," the report said, "Maguire stated he felt that such an arrangement would be premature until certain important developments pending in connection with the company had been effected."

W. E. LEROUX, division engineer at Ardmore, Okla., for the Carter Oil Company, sailed for Budapest, Hungary, to be in charge of production for the Standard Oil Company of New Jersey.

WILLIAM LEVIET, of Shreveport, a graduate of Louisiana Polytechnic Institute, and JOHN HENRY MAY, of Baton Rouge, a graduate engineer of Louisiana State University, have joined the staff of the state Department of Conservation as petroleum engineers.

D. B. WINES is in charge of the production office recently established in Mattoon, Ill., by the Tide Water Associated Oil Company. He formerly was at Wichita, Kans. Assisting him are W. H. CORDELL, transferred from Robinson, Ill., and "RED" FIDLER, transferred from Wichita Falls, Tex.

MacMillan Goes Higher

W. C. MacMillan, who last week was promoted to be regional manager of the Continental Oil Company's land department, started with that organization's predecessor, the old Marland Oil Company, just 12 years ago this month as an instrument man in the geological department. He was fresh from Brown University, Providence, R. I., and from his birth in Williamstown, Mass., he had breathed the New England atmosphere. The breezy West suited him just as well, however, and he settled down to a career in oil. Scouting and lease work followed his job in the geological department, and in 1933 he found himself assistant to the superintendent of the land department. Advancement to superintendent came a few months later. In January, 1938, Mr. MacMillan was made assistant manager, and he was holding that post at the time of his latest promotion.

W. C. MacMILLAN

Mr. MacMillan's new position came about as a result of division of the Continental's land department east of the Rocky Mountains into two regions because of the company's swelling activities along the Gulf Coast. His territory will include Oklahoma, Kansas, Illinois, Indiana, northern Arkansas, Colorado, Wyoming, Montana, South Dakota, and northern New Mexico. His headquarters will continue to be in Ponca City, Okla. The southern region will be in charge of W. E. Haggard, former manager of the land department, and his headquarters will be in Houston, Tex.

W. C. COOLIDGE, division manager of the Atlantic Refining Company in Houston, Tex., is confined to his home by illness.

R. D. MATTHEWS, executive vice president of Union Oil Company, has returned to his office in Los Angeles, from a vacation spent in Honolulu.

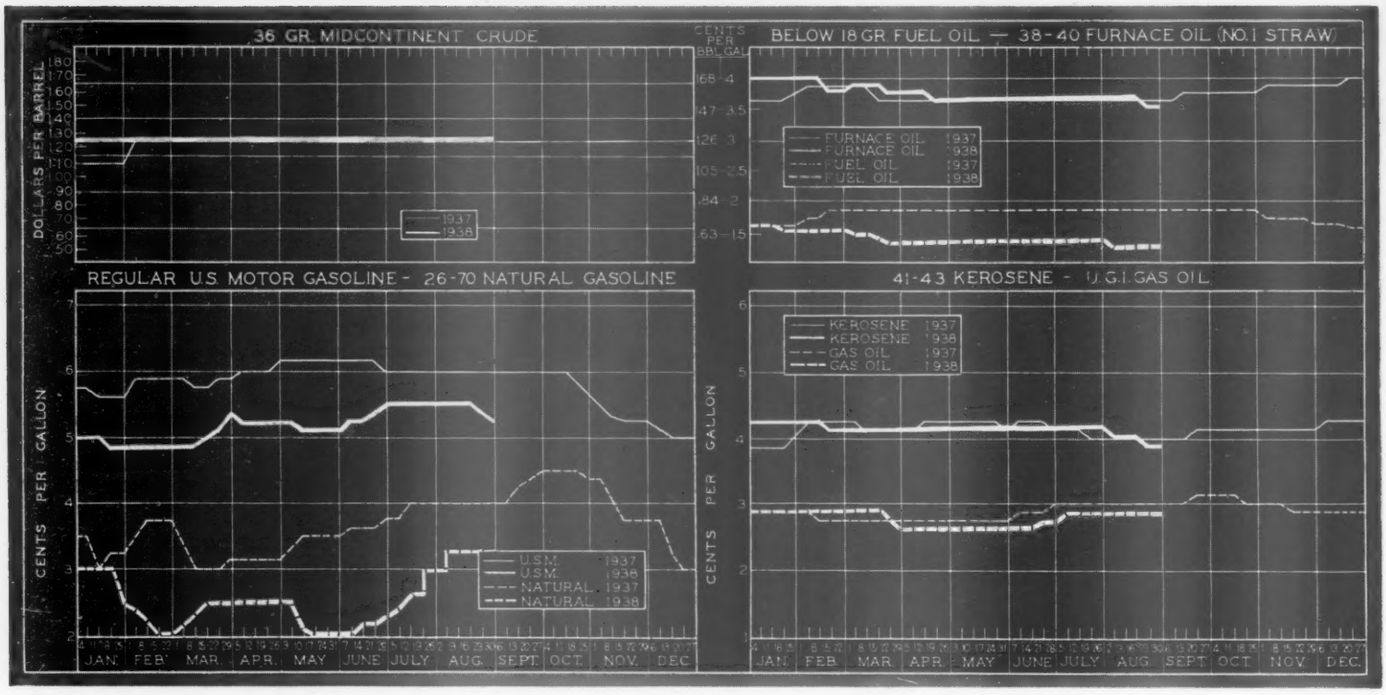
FLOYD BALLENTINE, head of the Continental Oil Company's land department in Fort Worth, Tex., left for Corpus Christi to do some fishing.

J. H. ABERNATHY, production engineer for the Sunray Oil Company, Tulsa, is back from a vacation trip which took him and MRS. ABERNATHY to fishing streams in the region of Creed, Colo.

EDWARD L. SHEA, executive vice president of Tide Water Associated Oil Company, was host last Friday at a luncheon in the Whitehall Club, 17 Battery Place, New York, site of the home office, when principal prizes in the $50,000 safe driving contest were announced.

GEORGE CALVERT, BERT F. WEEKLY, and J. M. LOFFLAND, independent operators of Fort Worth, Tex., and JOHN R. SUMAN, vice president of the Humble Oil & Refining Company, Houston, Tex., left last week for Alberta, Canada, on a three weeks' hunting trip.

THOMAS T. VAUGHN, drilling superintendent for the Superior Oil Company in Bakersfield, Calif., is moving his headquarters to the new office building of his company in the Rio Bravo field. The structure contains the modern features of a downtown office building except traffic noise. Three executive residences are under construction at the site, one of which will be occupied by Mr. Vaughn and his family.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Gasoline Still in Dumps and Outlook Continues Foggy in Group 3 Area

By T. F. SMILEY

Gasoline was still in the dumps in Group 3 territory this week, and market observers looking facts squarely in the face declared several aspects of the situation would have to be cleared up before a return to sound conditions would be possible.

Additions early this week to the list of crude oil purchasing companies which had reduced their price for East Texas crude imparted further nervousness to an already shaky gasoline market. The befogged outlook with respect to regulation of crude production in Texas was not helping the gasoline market a bit. Misgivings over gasoline stocks, refinery runs and consumption contributed to general uneasiness.

Another Weakening Factor

Another weakening influence may be recognized by reverting to recent refinery history. It will be recalled that late last year and early in 1938 a large number of plants in the Mid-Continent region closed rather than continue operating at a loss. It was a matter of common knowledge that many of the refineries which continued to run did so at a sacrifice. Upon arrival of the vacation season the motor fuel market took on a brighter look, and throughout June tankcar prices moved slowly upward. With the more encouraging prospect, idle refineries were put on stream again; as it turned out they only impeded a struggling market, for the seasonal improvement expected did not materialize. After tankcar prices had painfully crawled up three-eighths of a cent they halted from exhaustion. At this level some refineries were able to break even—and no more. Then, at the very peak of the tourist season, prices crumbled. While there has been a generally recognized drop of a quarter-cent, reports indicate sales of small lots at even lower figures.

It is predicted that just as many refiners closed their plants a few months ago to avoid loss, so the same course will be adopted again, and for the same reason. Withdrawals from gasoline stocks have been enormous, but few persons in the trade now hold the belief that these stocks can be reduced to an economic level by October, as had been hoped. And unless that is done the refinery market will start off under another handicap next year. While refinery runs in the Mid-Continent have been declining at a gratifying rate, that cannot be said of some districts.

Informed observers venture the assertion that gasoline consumption is not as high this summer as some of the prophets thought it would be. They express the belief that when the figures for July are available they will show a falling off from the record made in that month last year.

Jobber buying of gasoline in the past week has fallen short of expectations. Fear of still further recession in tankcar prices evidently prevails. Ordering for the triple holiday beginning next Saturday has been remarkably sparing, buyers apparently having determined to wait till the very last moment. Oklahoma refiners say their troubles are increased by the appearance in competitive territory of gasoline from Illinois, Michigan, East Texas, Arkansas, and Louisiana.

Naturals at Standstill

Natural gasoline was at a standstill. Quotations in both Oklahoma and Texas were unchanged. Day-to-day ordering was just enough to keep the market steady, but neither jobbers nor refiners were buying much for fall blending. Something of the same uncertainty that obtained in the refinery market seemed to be present in the natural gasoline trade.

The light distillates and kerosene displayed a mildly firmer tone. Tractor fuel for fall plowing was moving in slightly rising volume. Jobbers were buying enough heating oil for storage to keep quotations fairly firm, and feeling seemed to be general that prices probably had reached their lows for the season. Neutrals and bright stocks, while undergoing no price changes, were indirect beneficiaries of the improved Pennsylvania market in these commodities.

Refined Oil Market Barometer

Crumbling of tankcar gasoline prices when under normal conditions they should be displaying firmness has injected uneasiness in the refinery market. Hope of bringing gasoline stocks to the level of 1937 by October has virtually been abandoned. As the 1937 stocks were much too high, the unfavorable character of the present outlook is apparent.

MID-CONTINENT. Gasoline weak. Naturals sluggish. Light distillates holding.

EAST COAST. Gasoline soft. Fuel oils firmer. Kerosene improving.

GULF COAST. Gasoline weak, with quotations down. Kerosene and fuel oils slow.

CALIFORNIA. Gasoline soft and lower. Fuel oil and Diesel weaker.

PENNSYLVANIA. Gasoline unsteady and prices lower. Neutrals and bright stocks higher.

CHICAGO. Gasoline lacks strength, but Labor Day demand helping. Light fuels better.

Eastern Coast Gasoline Market Continuing on Lower Trend

By H. STANLEY NORMAN

NEW YORK, Aug. 29.—The waning summer motoring season continued the reaction last week in the northeastern seaboard gasoline market. The trend to lower market levels was evident over a broad front extending from New England to Philadelphia but had not become concentrated to the extent that any one point is suffering disproportionately.

In the New York harbor district, 65-octane motor fuel was freely offered in the tankcar trade at 6½ cents per gallon. Barge deliveries were made in all directions at 6¼ cents with reports current that this figure could be shaded in some directions on a firm offer. The volume of business has not slumped so far in proportion to the market, but the anticipated contraction of demand, plus the uncertainty some manifest over the crude structure, is contributing to restriction of buying. Furthermore, it is growing increasingly evident that the refining industry will fall short of its motor fuel stock reduction mark on September 30 by possibly 3,000,000 to 4,000,000 bbls.

Some observers of conditions, however, point out that the unprecedented early introduction of 1939 automobile models by practically all the large manufacturers may stimulate last quarter consumption of motor fuel even beyond expectations of the most optimistic. There is certainly evidence that the automobile manufacturers are anticipating a reversal in business trends during the last three months of 1938 and it is equally obvious that the petroleum industry will share at least to some extent, if the car makers' ideas are realized.

The tank-wagon and tankcar price to Albany dealers has been raised three-tenths of a cent per gallon, but Socony-Vacuum Oil Co., Inc., lowered tank-wagon quotations to the New York trade six-tenths of a cent when it instituted Feld-Crawford Act minimum retail contracts with its dealers. The Boston tankcar price was lowered a half-cent by Socony-Vacuum, a quarter of a cent was sliced from the tankcar quotations in Portland, Me., and the Manchester tankcar price was lowered three-tenths of a cent by the same company. Kerosene prices were lowered a half cent at Boston and at Manchester. N. H. A local disturbance at Hartford, Conn., resulted in a reduction of six-tenths to nine-tenths of a cent per gallon in the tank-wagon price there late last week making regular branded products available to divided dealers at 9 cents per gallon, exclusive of taxes.

Practically all motor fuel purchasing has been curtailed to a hand-to-mouth basis at the present time, although this week's orders were expected to show an improvement in anticipation of the triple day week-end occasioned by Labor Day next Monday. Numerous dealers, however, are restricting their purchases to immediate requirements feeling that the market may undergo further downward adjustments immediately after Labor Day, which, justifiably or not, is considered to mark the end of the peak summer consumption.

Retail conditions in this vicinity are on a more stable footing than at any time in the past three months. Practically all large distributors and manufacturers have placed their dealers under minimum retail price contracts and fluctuations in pump side quotations are held to a minimum. This general condition also prevails in New Jersey which was not subjected to the price warfare during the earlier summer months as prevailed on the New York side of the Hudson River. In most areas within a radius of 50 miles from New York, regular gasoline is offered at branded pumps at 17½ cents with 19½ cents quoted on premium motor fuel.

Fuel oil market trends are moving exactly counter current to gasoline. Kerosene inquiries are reaching the market at an increasing rate and there is less inclination on the part of dealers to offer price concessions as an inducement to purchasers. Kerosene is reported steady at 4 cents per gallon in the Gulf Coast cargo market.

With the season approaching when domestic burners will be required at least part time until winter sets in, home owners are ordering out first fall supplies, anticipating that the market will at least hold to its present levels and in all probability move forward. No. 2 fuel oil is reported well held on the Gulf Coast cargo market for minimum of 3½ cents, ranging up to 3⅝ cents per gallon. While the volume of business currently reaching refiners probably is insufficient to forecast an immediate advance in prices the demand is adequate to forestall any further declines. There is the further consideration of manufacturing industry revival which will have some influence on the light oil market, although the major benefit will accrue to heavy fuels.

In view of the greater activity anticipated in steel mills, automobile plants and other similar or kindred factories, the heavy fuel oil picture is considerably brighter. Reports were current in New York that industrial fuel oil is available in some directions for barge delivery at 85 cents per barrel, but there was no general admission that the current price of 95 cents per barrel for Bunker C fuel was in immediate danger. Availability of industrial fuel at 85 cents was not surprising in view of the fact that this material of no more than 10 gravity is offered on the Gulf Coast at 62½ cents. Heavy fuel oil quotations on the Gulf Coast range from 62½ to 75 cents per barrel, but in view of the season and general business prospects, most suppliers believe the range will be materially narrowed in the near future.

Revival of discussions pointing to a five-day production week in Texas did considerable to dispel the gloom in eastern oil circles accompanying the adjustment by three independent refiners in East Texas.

Fuel oils, bright stock and neutral oils featured the past week's activity in the eastern Pennsylvania refining district. Production of Pennsylvania lubricating oils has been materially curtailed during the past three to five weeks due to cessation of plant operation. Improved demand from jobber and industrial accounts in anticipation of winter changeovers and expanded manufacturing activity have combined to strengthen the market materially. Bright stock of 150 viscosity, 25 pour test is generally quoted by Pennsylvania plants at 14 to 14½ cents per gallon currently while 150 viscosity neutral is held at most points of supply for 14 to 14½ cents. Added to the improved domestic demand is a pickup in export inquiries for various grades of Pennsylvania lubricating stock.

First movement of an export cargo of motor fuel from the Gulf Coast in several weeks was reported last week. The cargo consisted of 65,000 bbls. of 64-66 375 endpoint gasoline for September-October loading at a price of 4⅝ to 4¾ cents per gallon. Included in the sale to a European buyer was a quantity of 70 octane, leaded motor fuel at 5⅜ cents.

There has been relatively little open market activity in the export

(Continued on Page 102)

A. P. I. Weekly Refinery Statistics

Week Ending August 27, 1938

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	505,000	20,039,000	14,547,000
Appalachian	85.9	105,000	3,038,000	1,013,000
Indiana, Illinois, and Kentucky	89.0	407,000	11,143,000	9,344,000
Oklahoma, Kansas, and Missouri	81.6	276,000	6,205,000	4,343,000
Inland Texas	50.3	129,000	1,911,000	1,881,000
Texas Gulf	88.9	793,000	9,760,000	13,244,000
Louisiana Gulf	91.1	121,000	2,248,000	3,355,000
North Louisiana and Arkansas	55.0	38,000	531,000	860,000
Rocky Mountains	54.2	58,000	1,283,000	824,000
California	90.0	506,000	12,006,000	94,525,000
Total reported	85.5	2,938,000	68,164,000	143,936,000
Estimated unreported	.....	317,000	3,590,000	2,990,000
*Estimated total	.....	3,255,000	71,754,000	146,926,000
*Estimated total, previous week	.....	3,265,000	72,709,000	147,180,000
*August 28, 1937	.....	3,425,000	66,997,000	112,111,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending August 20, 1938	285,137,000 barrels
Week ending August 13, 1938	286,251,000 barrels
Week ending August 21, 1937	309,699,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of August 30, 1938

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dlr.	Inc. tax	tank-wag.
Chicago, Ill.	15.6	13.6	4.0	10.5
Decatur	15.6	14.1	4.0	10.5
Joliet	15.6	14.1	4.0	10.5
Peoria	15.6	14.1	4.0	10.5
Quincy	15.4	13.9	4.0	10.3
Davenport, Ia.	15.6	14.1	4.0	‡10.5
Des Moines	15.4	13.9	4.0	‡10.3
Mason City	15.8	14.3	4.0	‡10.7
Duluth, Minn.	17.4	15.9	5.0	11.3
Mankato	17.0	15.5	5.0	10.9
Minneapolis	17.0	15.5	5.0	10.9
LaCrosse, Wis.	17.0	15.5	5.0	10.9
Green Bay	17.4	15.9	5.0	10.3
Milwaukee	16.8	15.3	5.0	10.7
Detroit, Mich.	14.3	12.8	4.0	9.0
Grand Rapids	14.8	13.8	4.0	9.7
Saginaw	16.3	14.8	4.0	9.3
Evansville, Ind.	17.1	15.6	5.0	††11.0
Indianapolis	17.3	15.8	5.0	††11.2
South Bend	17.6	16.1	5.0	††9.0
Fargo, N. Dak.	17.2	15.7	4.0	12.1
Minot	18.5	17.0	4.0	13.4
Huron, S. Dak.	17.5	16.0	5.0	11.4
Kans. City, Mo.*	14.9	13.4	4.0	8.5
St. Louis*	15.2	13.7	4.0	10.1
St. Joseph*	14.9	13.4	4.0	9.8
Wichita, Kans.	14.4	10.6	4.0	7.8

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more. 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective August 1, 1938, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8.5 cents; 150 gallons and over, 8 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex furnace oil, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex grade A, 1-399 gallons, 5 cents; 400 gallons and over, 4 cents. Stanolex grade B, 1-799, gallons 5 cents; 800 gallons and over, 4 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank. wag.
Atl'tic City, N. J.	13.4	11.4	4.0	8.0
Newark	13.4	11.4	4.0	8.0
Annapolis, Md.	14.85	13.35	5.0	9.5
Baltimore	14.25	12.75	5.0	9.0
Cumberland	16.65	14.15	5.0	10.0
Wash'g'n, D. C.	12.5	11.0	3.0	9.5
Danville, Va.	16.95	14.45	6.0	12.9
Norfolk	15.75	13.25	6.0	11.5
Petersburg	16.05	13.55	6.0	11.7
Richmond	16.05	13.55	6.0	11.7
Roanoke	17.25	14.75	6.0	12.9
Charles'n, W. V.	17.05	14.55	6.0	12.6
Parkersburg	15.35	13.85	6.0	11.2
Wheeling	16.25	14.85	6.0	12.2
Charlotte, N. C.	18.65	16.15	7.0	12.1
Hickory	19.15	16.65	7.0	12.5
Mt. Airy	18.95	16.45	7.0	12.3
Raleigh	18.25	15.75	7.0	11.6
Salisbury	18.75	16.25	7.0	12.2
Charleston, S. C.	17.25	14.75	7.0	10.6
Columbia	18.25	15.75	7.0	11.6
Spartanburg	18.95	16.45	7.0	12.4

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia: and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be the equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank-wag.	Net dlr.	Inc. tax	tank-wag.
Atlanta, Ga.	19.0	16.0	7.0	12.0
Augusta	19.5	16.5	7.0	11.5
Macon	21.0	18.0	7.0	11.5
Savannah	19.5	16.5	7.0	10.0
Birm'ham, Ala.	21.5	18.5	8.0	12.0
Mobile	21.5	18.5	9.0	9.0
Montgomery	21.5	19.5	9.0	11.5
Jackson, Miss.	19.5	16.5	7.0	10.0
Vicksburg	20.0	17.0	7.0	9.5
Jacks'ville, Fla.	20.5	17.5	8.0	8.0
Miami	20.5	17.5	8.0	9.0
Pensacola	21.0	18.0	9.0	10.0
Tampa	20.5	17.5	8.0	8.5
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	18.0	15.0	6.0	10.5
Louisville	19.0	16.0	6.0	10.0
Paducah	16.5	13.5	6.0	10.0

*Includes 1-cent state tax.

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallons discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Dealer		Inc. tax	tank-wag.
Denver, Colo.	15.5		5.0	11.5
Grand Junction	19.0		5.0	15.0
Pueblo	16.5		5.0	10.5
Casper, Wyo.	17.0		5.0	11.5
Cheyenne	13.0		5.0	13.0
Butte, Mont.	19.5		6.0	15.5
Billings	19.0		6.0	13.0
Helena	20.0		6.0	15.5
Great Falls	19.0		6.0	15.5
Salt Lake City, Utah	17.0		5.0	16.0
Twin Falls, Idaho	21.0		6.0	18.0
Boise	21.5		6.0	18.0
Albuquerque, N. M.	17.5		*6.5	12.0

*Includes city tax of .5 cent.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank-wag. con'r.	Divided dlr.	Inc. tax	tank-wag.
Ohio points	16.5	15.5	5.0	*13.0

*Includes state tax of 1 cent.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	T-wag. dealer	T'car consr.	Inc. tax	tank wag.
Albany	14.8	12.8	5.0	9.0
*Met. N. Y.:				
M'htt'n, Bronx	13.4	12.5	5.0	8.75
State Island	13.4	12.5	5.0	8.75
Q'ns. & Bklyn.	13.4	12.5	5.0	8.75
Buffalo	14.5	13.4	5.0	7.5
Rochester	15.3	13.5	5.0	8.5
Syracuse	14.5	13.1	5.0	9.0
Boston, Mass.	13.0	11.5	4.0	8.0
Portland, Me.	15.0	12.75	5.0	8.75
Manch'ter, N. H.	15.0	13.3	5.0	8.5
Burlington, Vt.	15.4	13.4	5.0	9.5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon prices at delivery point.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax.	tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

*Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank-wag.	Dlg.	Inc. tax	tank-wag.
Omaha	18.0	16.5	6.0	10.8
McCook	17.5	16.5	6.0	10.0
Norfolk	18.4	14.9	6.0	11.2
North Platte	18.4	15.4	6.0	11.0
Scotts Bluff	19.5	14.4	6.0	12.3

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank-wag.
N. Orleans, La.	19.75	17.25	*10.0	†13.5
Baton Rouge	17.75	15.25	8.0	*10.5
Alexandria	17.75	15.25	8.0	12.5
Lafayette	18.0	15.5	8.0	12.5
Lake Charles	17.75	15.25	8.0	12.5
Shreveport	16.5	14.0	8.0	11.0
Knoxville, Tenn.	21.0	18.5	8.0	14.5
Memphis	19.0	16.5	8.0	12.5
Chattanooga	20.5	18.0	8.0	14.0
Nashville	20.0	17.5	8.0	13.5
Bristol	21.25	18.75	8.0	15.0

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank-wag.
Philadel'hia, Pa.	13.75	12.25	5.0	10.0
Pittsburgh	15.0	13.0	5.0	10.5
Allentown	14.25	12.75	5.0	10.5
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.0	5.0	10.5
Altoona	15.0	13.0	5.0	10.5
Dover, Del.	13.5	....	5.0	10.5
Wilmington	12.5	....	5.0	9.75
Springf'ld, Mass.	13.5	....	4.0	8.0
Worcester	13.0	....	4.0	8.5
Hartford, Conn.	13.6	....	4.0	7.0
New Haven	13.5	....	4.0	7.0
Providence, R. I.	13.0	....	4.0	8.0

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Oklahoma and Arkansas

CONTINENTAL OIL CO

	Gasoline		Kero.
	Dealer	Inc. tax	tank-wag.
Muskogee, Okla.	14.5	5.0	7.0
Oklahoma City	13.5	5.0	7.0
Tulsa	12.0	5.0	7.0
Ft. Smith, Ark.	14.75	5.0	7.5
Little Rock	17.25	7.5	8.0
Texarkana	14.0	5.0	8.0

Texas

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax.	tank-wag.
Dallas, Tex.	14.0	18.0	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	13.5	17.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	24.5	10.0	18.5
St. John, N. B.	24.5	10.0	18.5
Montreal, Que.	21.0	6.0	17.5
Toronto, Ont.	22.0	6.0	17.0
Hamilton, Ont.	22.0	6.0	17.0
Winnipeg, Man.	27.5	7.0	20.7
Brandon, Man.	28.1	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Continental Oil Co. August 19 reduced dealer gasoline 1 cent in Salt Lake City; August 24 reduced dealer gasoline .5 cent in Billings.

Standard Oil Co. of Louisiana August 24 reduced tank-wagon kerosene 2 cents in Baton Rouge.

Socony-Vacuum Oil Co., Inc., July 22 reduced tankcar consumer gasoline and tank-wagon kerosene .5 cent in Boston, tankcar consumer gasoline .25 cent in Portland, tankcar consumer gasoline .3 cent and tank-wagon kerosene .5 cent in Manchester. July 11, reduced tank-wagon dealer gasoline .3 cent in metropolitan New York. June 28, advanced tank-wagon dealer and tankcar consumer gasoline .3 cent in Albany.

New York Market

(Continued from Page 101)

trade during the past six weeks, although part of the inactivity was due to unwillingness of suppliers to quote on products which might be required for domestic consumption. With the coastwise movement of motor fuel slackening off, particularly on the high octane grades, the product is offered more freely. Higher octane grades of motor fuel are appearing in open market offerings for the first time since early summer. The tank-wagon price for light fuel oil, including Nos. 2 and 4 grades, is generally quoted in the New York vicinity at 6½ cents per gallon, although shading is reported.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of August 30, 1938

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜
60-62 400 grades:		
62 oct. and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜
64-66 375	.04⅝	.04¾
68-70 360	.04⅞	.05

NORTH TEXAS—

U S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜
60-62 400	.04½	.04⅝
64-66 375	.04⅝	.04¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:	
62 octane and below	.04¾
63-66 octane	.05⅛
67-69 octane	.05¼
70-72 octane (regular)	.05¾

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:	
62 octane and below	.05
67-69 octane	.05½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane	.05¼	.05½
60-62 400 grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅛
64-66 375	.04⅝	.04⅞
68-70 360	.04⅞	.05⅛

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04¾	.05⅝
65 octane	.06¾	.07
68-70 octane	.07	.07¼

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06½	.08
58-60 400, 65 oct. and higher	.07½	.09

EAST COAST (domestic)—

U. S. Motor, 60-64.9 octane:		
New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Boston	.06¼	.06½
Baltimore	.06	.06¼
Charleston, S. C.	.06¾	.07
U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.06¾
Philadelphia	.06½	.06¾
Boston	.06½	.06¾
Baltimore	.06½	.06¾
Charleston, S. C.	.07	.07¼

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:	
Below 60 octane	.04¾
60-64.9	.04¾
65 octane and higher	.05⅛
68-70	.05⅝

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¾	.04⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03¼
Grade 18-55	.03⅝	.03¾

NORTH TEXAS—

Grade 26-70		.03¼
Grade 18-55	.03⅝	.03¾

CALIFORNIA—

75-85 375-390	.06¼	.07

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.03½

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03⅞	.04
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.04⅛	.04¼
46-48 gr., 210-230 l.b.p., 480 max., e.p.	.04½	.04¾

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅞	.04
42-44	.04⅛	.04¼

NORTH TEXAS—

41-43	.03⅞	.04

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04⅛	.04¼

ARKANSAS (Ark. and N. La. del.)—

41-43	.04½	.04⅝

PENNSYLVANIA (inland refineries)—

45	.04⅞	.05⅛
46	.05⅛	.05¼
47	.05¼	.05⅜

CHICAGO (Based on Group 3)—

41-43	.04½	.04⅝
42-44	.04⅝	.04⅝

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.05	.06

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝	.04¾

***GULF COAST (domestic)—**

41-43	.03⅞	.04

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03¾	.03⅞
No. 1 prime white, 38-42	.03⅝	.03¾
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03¼	.03½
No. 3 zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42		.03¾
No. 1 straw, 38-40	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03¼	.03½

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅝

CHICAGO (Based on Group 3)—

Range oil	.03⅞	.04
No. 1 prime white, 38-40	.03¾	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2		.04
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.90
No. 5, low cold test, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.00	1.10
No. 5, low cold test, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.80	.82½

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low cold test, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low cold test, 16-10	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.03¾	.04

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.40
24 plus Diesel, per bbl.	1.05	1.40
24 plus Diesel (bunkers)	1.25	1.55
12-16 (bunkers at tidewater)	.80	.90
10-16 (cargo lots)	.65	.85
12-17 (tankcars)	.55	.90
10-17 (high sulfur)	.50	.85
San Joaquin Valley:		
10-18 (tankcars)	.60	.80
24 plus Diesel, per bbl.	1.20	1.50
San Francisco:		
24 plus Diesel, per bbl.	1.45	1.55
24 plus Diesel (bunkers)	1.50	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03½
43-47 Diesel		.03½
48-52 Diesel	.03½	.03⅝
53-57 Diesel	.03⅝	.03¾
Bunkers (bulk cargoes)	.62½	.67½
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 Diesel (lighterage 6¼c per bbl.)		1.75
28-30 Diesel (tankers)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. Harbor)		.95
Industrial fuel (tankcars)	.03¾	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05½

PENNSYLVANIA—

Bright stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour test	.17	.17½
15 pour test	.16	.16½
20 pour test	.15	.15½
25 pour test	.14	.14½
Steam refined:		
600	.08	.08½
650	.10	.10½
600 Pennsylvania flash	.10½	.11
630 flash	.13½	.14
600 Warren E filtered	.12½	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3	.09
180-3	.10
180-4	.09½
200-3	.10½
200-4	.10
250-3	.11½
250-4	.11
280-3	.12½
280-4	.12
300-6½	.13
400-3½	.14
100-2½ paraffin oil	.06
15-20 cold test:	
200-3	.10
200-4	.09½
250-3	.11
250-4	.10½
280-3	.12
280-4	.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08¾	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¾	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6¼ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° color, 400-405 flash:		
Zero pour test	.17	.17½
10 pour test	.16	.16½
15 pour test	.15	.15½
25 pour test	.14	.14½
200 vis. at 70° F., 3 color:		
Zero pour test	.18	.18½
10 pour test	.17	.17½
15 pour test	.16	.16½
25 pour test	.15	.15½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02¼	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0245
124-126 (a.m.p.) w.c. scale	.0235	.0245

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0420
125-127 (a.m.p.) wax		.0435
128-130 (a.m.p.) wax		.0445
130-132 (a.m.p.) wax		.0455
133-135 (a.m.p.) wax		.0500
135-137 (a.m.p.) wax		.0515
124-126 (a.m.p.) w.s.		.0185
124-126 (a.m.p.) y.s.		.0185
Petrolatum in barrels, carload lots:		
Dark green	.02	.02½
Amber	.02⅜	.02½
Extra amber	.02⅝	.02¾
Lily white	.05½	.05¼
Snow white	.06½	.06¼
Cream	.04⅛	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.04¾
60-62 400		.04¾
61-63 390	.05⅛	.05¾
64-66 375		.05½

LOS ANGELES—

U. S. Motor grades:	
55-65 octane	.05
65-69 octane	.05¼
Above 69 octane	.05½

KEROSENE

GULF COAST—

41-43 prime white	.03⅞	.04
41-43 water white	.03⅞	.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.b. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0455
Crude scale:		
124-126 w.s.	.0185	.0200
124-126 y.s.	.0185	.0200

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

(Effective January 28, 1937)

East Texas (May 22, 1937)*	$1.35
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90
Lisbon, La. (Dec. 13, 1937)*	.98

*Caddo Crude Oil Purchasing Co.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light (July 8, 1938)*†	1.05
Grass Creek, Wyo., heavy (May 1, 1938)*	.50
Hamilton Dome, Wyo. (May 1, 1938)*	.45
Elk Basin, Wyo., light (July 8, 1938)*†	1.05
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light (May 1, 1938)*	.65
Hogback, N. M. (Jan. 28, 1937)*	1.33
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†‡	1.23
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. M. (Jan. 2, 1937)‡	.90
Maljamar, N. M. (Jan. 28, 1937)‡	.90
Canon City and Florence, Colo.	1.10
Lance Creek, Wyo.*	.97
Lander, Wyo. (Jan. 1, 1938)§	.51¼
Sunburst, Mont. (Nov. 16, 1937)†	.90
Cat Creek, Mont. (Jan. 1, 1938)‡	1.30
Garland, Wyo. (Jan. 1, 1937)†	.50

*Stanolind Oil & Gas Co. and Ohio Oil Co. †Ohio Oil Co. ‡Continental Oil Co., Texas Co. (April 1, 1938). §Hudson Oil Co.

Gulf Coast

(Effective January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Lafitte, La.	1.24
Livingston, Tex.	1.27
Welsh, La.	.98
Tepetate (La.) (Jan. 28, 1937)	1.24

Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36. Effective October 1, 1937, Stanolind Oil & Gas Co. in Evangeline, La., pays 92 cents for below 20 gravity, adding 2 cents for each degree upward to 40 and over, at $1.34.

Middle Western States

OHIO OIL CO.

(Effective January 28, 1937)

Lima	$1.00
Centralia, Ill. (Aug. 8, 1938)‡	1.10 to 1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich. (Jan. 5, 1938)*	1.12
West Branch, Mich. (Aug. 9, 1938)†	.90
Buckeye (Jan. 8, 1938)	1.09½
Arenac, Mich. (Dec. 29, 1937)†	.80
Freeman-Redding (Mich.)	1.09½
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (July 1, 1938)	1.32
Kentucky River (July 1, 1938)	1.40
Western Kentucky (June 22, 1938)	1.30

*Posted by Pure Oil Co. †McClanahan P. L. and Simrall. ‡Posted by Owensboro Oil Corp. (Standard of Ohio).

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

West Texas

See gravity table.

Pecos County*	$ .91
Pecos shallow†	.81

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Eastern States

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.

(Effective June 13, 1938)

Bradford, Pa.	$1.80
Allegany, N. Y.	1.80

SOUTH PENN OIL CO.

(Effective June 13, 1938)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	$1.80
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.46
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.40
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.30
Corning Grade Oil in Buckeye Pipe Line Co. line (June 16, 1938)	1.17

PENNZOIL CO.

(Effective June 13, 1938)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.73
Includes Cochran, Franklin, Hamilton and Doolittle district.	
Group B	1.72
Includes Tidioute district.	
Group C	1.71
Includes Turkey and Tidioute districts.	
Group D	1.70
Includes Bear Creek and Porkey districts.	
Group E	1.68
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	

PURE OIL CO.

(Effective June 13, 1938)

Cabin Creek, W. Va.	$1.40
Bradford Hollow, W. Va.	1.40
Kelly Creek, W. Va.	1.40

Southwest Texas

(Effective January 28, 1937)

Pettus	$1.37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09
Lytton Springs	1.12
Luling	1.00

Saxet and Taft take same gravity table as Gulf Coast.

Canada

Ontario (Sept. 9, 1933)*

Petrolia	$2.10
Oil Springs	2.17
TURNER VALLEY NAPHTHAS AND CRUDE OIL	
(January 5, 1938, by Imperial Oil, Ltd.)	
Clear naphtha and discolored naphtha, 65 gravity and higher	$2.14
Discolored naphtha and crude oil, 40-40.9 gravity	1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity	1.62
These prices f.o.b. producers field tankage.	

*Imperial Oil, Ltd.

Crude Prices by Gravities

	Oklahoma-Kansas	Oklahoma-Kansas	North and Central Texas	East Central Texas (Mexia district)	North Louisiana-Arkansas	Gray County, Texas	Hutchinson-Carson counties, Texas	Rodessa, Louisiana-Texas and Panola County, Texas	Conroe, Tomball, Raccoon Bend, (Deep) Satsuma	Gulf Coast	Gulf Coast	Les County, N. Mex. West Texas except Pecos County	Mirando district, Texas	Marion County, Texas	Refugio, Greta, Saxet, Taft, Texas	Anahuac, Flour Bluff, Dickson, Turtle Bay	White Castle, Louisiana	Iowa, Louisiana	Cayuga, Texas
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Bel. 18	....	....	....	....	....	....	....	....	....	$ 95	....	....	....	....	....	....	....	$ .90	....
18-18.9	....	....	....	....	....	....	....	....	....	95	....	....	....	....	....	....	....	.92	....
19-19.9	....	....	....	....	....	....	....	....	....	95	....	....	....	....	....	....	$.94	.94	....
20-20.9	....	....	....	....	....	....	....	....	....	95	$.95	....	$.96	....	$1.01	....	.96	.96	....
21-21.9	....	....	....	....	....	....	....	....	....	98	.98	....	.98	....	1.03	....	.98	.98	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	1.00	....	1.05	....	1.01	1.01	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	1.02	....	1.07	....	1.04	1.04	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.04	....	1.09	....	1.07	1.07	....
Bel. 25	....	$.98	....	....	$.90	....	....	$ 93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.06	.92	1.11	....	1.10	1.10	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	1.13	....	1.13	1.13	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	1.15	....	1.15	1.15	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	1.17	....	1.17	1.17	.96
Bel. 29	$1.06	....	$.96	$1.03	....	....	....	....	$1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	1.19	....	1.19	1.19	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	1.21	$1.16	1.21	1.21	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	1.23	1.18	1.23	1.23	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	1.25	1.20	1.25	1.25	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	1.27	1.22	1.27	1.27	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	1.29	1.24	1.29	1.29	1.08
Bel. 35	....	....	....	....	....	$.96	$ 91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	93	1.15	1.34	....	1.31	.98	1.26	1.12	1.31	1.26	1.29	1.29	....
36-36.9	1.22	1.22	1.12	1.19	1.14	1.00	95	1.17	1.36	....	1.33	1.00	1.28	1.14	1.33	1.28	1.29	1.29	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	97	1.19	1.38	....	1.35	1.02	1.30	1.16	1.35	1.30	1.29	1.29	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	99	1.21	1.40	....	1.37	1.04	1.32	1.18	1.37	1.32	1.29	1.29	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	1.39	1.06	1.34	1.20	1.39	1.34	1.29	1.29	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	1.41	1.36	1.29	1.29	....

Effective July 8, 1938, Standard Oil Co. of Louisiana posted prices in Buckner, Magnolia, and Village pools in Columbia County, Arkansas, as follows: Below 25 degrees 83 cents; 25-25.9 degrees 85 cents; with 2 cents added for each degree upward to and including 40 degrees and above at $1.15.

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Bay, Eason, El Dorado, Cities Service, Falcon, Globe, Gulf, Johnson, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.

Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.

Column 3—All purchasers.

Column 4—Humble Oil & Refining Co. and Sinclair Oil Purchasing Co.

Columns 5, 6, 7 and 8—All companies. Effective July 8, by Standard Oil Co. of Louisiana, Buckner, Magnolia and Village, Arkansas, 7 cents per barrel less than prices in Column 5.

Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)

Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)

Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co. Column 12—All purchasers. Column 13—All purchasers (effective July 6, 1937). Column 14—Magnolia Petroleum Co. Column 15—Humble Oil & Refining Co. (effective July 6, 1937). Column 16—Humble Oil & Refining Co. Columns 17 and 18—Shell Petroleum Corp. Column 19—Tide Water Oil Co.

Bees Gas Company Problem

Added to the woes of pressure, supply, sales, collections and other problems attending operation of a public utility, the Fort Stockton, Texas, Gas Co. has run into difficulty in the form of bees.

A variety of the insects noted not for honey-making, but for cutting of flowers and leaves in gardens, decided to establish homes in the openings of pressure regulators found at each meter.

The regulators have opening for admitting air, about one-sixteenth of an inch in diameter. When air cannot get in, gas service in a particular residence is stopped.

The bees would crawl through the small iron elbows installed at each air hole to keep rain out and deposit their wax in this hole, in some cases blocking it completely. Trouble is most acute in damp weather, when moisture swells the wax.

But the bees can be outwitted. A small brass wire cap, specially made for the local company and costing a nickel, will be inserted in the opening of the protecting elbow, and not even a gnat can get by the strainer.

Thermodynamics

A review of thermodynamics, fluid flow and heat transmission has been assembled in a new book by Huber O. Croft, head of the Department of Mechanical Engineering, University of Iowa. The book is of special interest to those who are studying these subjects although it will be also found of value to the practicing engineer who desires a ready reference to formula and data relating to these subjects. The title of the book is "Thermodynamics, Fluid Flow and Heat Transmission" and it is published by McGraw-Hill Book Co., Inc., New York, and sells for $3.50 per copy.

Washington State Gasoline Sales

SEATTLE, Wash. — Sales of taxable gasoline in Washington during July aggregated 33,291,424 gallons against 30,023,541 gallons in June and 34,571,444 gallons in July last year. The daily average sales during July were 7.3 per cent in excess of daily average sales in June but were 3.7 per cent less than in July last year.

Marketers Convention

The National Oil Marketers Association will hold its annual convention at the Morrison Hotel, Chicago, Ill., October 24-25.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938 High	1938 Low	Week ending Aug. 27 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
78	55	2,200	72½	68	68	Amerada Corp.	788,675	N.P.	50cQ	7-30-38	$2.00	114⅞	51½	125½	75
27⅜	17¾	5,300	23⅜	22¼	22¼	Atlantic Refining	2,663,999	$25	25cQ	9-15-38	1.00	37	18	35½	26⅝
23⅜	12⅛	5,000	21¼	19½	20⅝	Barber Asphalt Co.	390,223	$10	75c	12-16-37	1.00	43⅝	10⅛	38½	21
21⅜	10⅛	10,600	18¾	17½	17⅝	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-38	1.00	35¼	10	28¼	14⅛
10¾	7	11,300	9⅞	9¼	9¼	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	8-15-38	.90	17⅝	7	17¼	11⅛
35¾	21¼	10,700	33⅜	30½	30⅞	Continental Oil of Delaware	4,682,583	$5	25cQ	9-30-38	1.50	49	24	44⅞	28⅛
9¾	5	4,700	8⅜	7⅞	8	Houston Oil (new)	1,098,618	$25	.	10-17-30	....	17⅝	4⅜	13⅞	6⅝
22⅝	12¼	2,400	18½	17⅜	18	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-38	1.50	35⅝	14	30⅞	17¼
17¾	10⅞	500	15½	15¼	15¼	Mission Corporation	1,382,945	$10	$1	6-29-38	1.25	34	15	29⅞	16⅝
23	14⅛	8,700	19	17⅛	18	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	(‡)	41⅝	17⅝	75½	19⅞
14⅞	9	13,300	11	10	10	Ohio Oil Co.	6,563,377	N.P.	50c	12-15-37	1.00	22⅞	8	18	12⅛
15⅞	10¼	200	12⅝	12⅜	12⅝	Pacific Western Oil	1,000,000	N.P.	75c	12-15-37	.75	29¾	11⅝	23½	11⅝
9¼	7	100	7½	7½	7½	Pan American Pet. & Trans.	4,702,945	$5	$1 *	12-21-37	1.00	17⅛	7	20⅝	12¼
44⅜	27¼	15,200	40⅜	39¼	39¼	Phillips Petroleum	4,449,052	N.P.	50cQ	9-1-38	2.75	64	30⅛	52⅝	33⅛
25⅜	15	2,900	24	22⅝	23½	Plymouth Oil Co.	1,029,800	$5	35cQ	6-30-38	1.65	29⅞	13	27⅝	11⅞
13½	8¼	15,100	11⅜	10⅜	10½	Pure Oil Co.	3,285,120	N.P.	25c	12-1-37	.25	24⅝	8⅝	27⅞	16
8⅞	5	20,000	8¼	7¾	8	Richfield Oil Corp.	3,896,638	N.P.	25c	12-24-37	.25	6½	4⅛	..	..
27½	15½	1,000	22⅝	21⅝	22½	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-38	1.00	54⅛	16	44	30½
18⅜	10	8,500	16½	15	15⅜	Shell Union Oil	13,070,625	N.P.	35c	7-15-38	1.00	34⅝	14⅞	28¼	14⅝
34¾	18½	2,000	28⅝	26	26½	Skelly Oil	1,003,949	$15	50c	6-25-38	1.50	60⅝	26½	47⅜	19½
16⅜	10¾	25,000	15	14	14	Socony-Vacuum	31,151,071	$15	25c	9-15-38	.80	23¼	13	17½	12½
34⅞	25⅛	14,000	31½	30	30⅛	Standard Oil of California	13,014,754	N.P.	35cQ†	9-15-38	2.00	50	27⅛	47⅝	35
35½	24¾	8,500	31¾	30½	30¾	Standard Oil (Indiana)	15,267,030	$25	25cQ	9-15-38	2.30	50	26½	48½	32⅝
35½	22½	....	..	..	..	Standard Oil of Kansas	112,837	$10	$5	12-20-37	5.00	43	30⅝	31	25
58⅝	39¾	15,200	55½	53⅛	53¾	Standard Oil of New Jersey	26,224,767	$25	$1SA†	6-15-38	2.50	76	42	70⅝	51⅛
50	45	600	57	56	56⅝	Sun Oil	2,316,484	N.P.	25cQ	9-15-38	$1 & 8% Stk.	77½	44½	91	70
4¼	1¾	3,600	3½	3¼	3¼	Superior Oil Corp.	1,388,079	$1	....	....	....	7¾	1½	6¾	3
49⅝	32⅝	21,700	46⅞	43½	43¾	Texas Corp.	10,875,006	$25	50cQ	10-1-38	2.25	65½	34¾	55¼	28⅞
5¼	2⅝	4,100	4¾	4⅜	4⅝	Texas Gulf Producing Co	888,137	N.P.	10c	12-23-37	.10	9⅝	2	8⅞	4⅝
12½	7	5,600	12	10⅞	10⅞	Texas Pacific Coal & Oil	888,237	$10	10c	9-1-38	.40	16⅝	5⅝	15¼	7½
15¾	10⅛	4,700	14	13	13⅛	Tide Water Associated	6,369,175	$10	25cQ	9-1-38	1.20	21⅝	13⅛	21⅜	14⅜
22½	17⅛	1,500	21½	20¾	20¾	Union Oil of California	4,666,270	$25	30cQ	8-10-38	1.40	28¼	17½	28½	20⅝
23½	20	700	22½	21⅛	21⅜	Union Tank Car Co.	1,200,000	N.P.	30cQ	9-1-38	1.60	31½	22	31⅝	23⅝
3½	1⅝	400	3¼	3⅛	3⅛	Wilcox Oil & Gas	506,522	$5	....	5-10-28	....	6¼	1⅜	5¼	2⅜

*Payable in 3½% notes. †Includes extras. ‡One-tenth share $2 preferred stock

New York Curb Exchange

1938 High	1938 Low	Week ending Aug. 27 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
11⅜	5	3,700	10½	10	10	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.40	10	6⅝	..	..
10¼	5⅛	1,200	7⅝	7	7	Bridgeport Machine Co.	260,000	N.P.	1.25	12-30-37	$2.00	21⅝	7	21	13¼
39	28¼	100	28¼	28¼	28¼	Buckeye Pipe Line Co.	200,000	$50	25c	9-15-38	3.75	51½	36	50	39⅝
113½	97	200	113½	113½	113½	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-27-38	7.00	123	95½	124⅝	105
11	7¾	2,800	8¼	7¾	7¾	Cities Service (new)	3,714,317	$10	....	6-1-32	....	5⅝	1½	7⅝	3
2⅜	⅞	1,000	1⅝	1½	1½	Cosden Petroleum	462,551	$1	....	.....	....	5½	1½	4½	1½
27½	17½	2,700	22⅝	22	22	Creole Petroleum	6,975,383	$5	50cSA†	6 10-38	1.00	38¾	20¼	39	19⅞
10¼	5½	700	9⅞	9⅜	9⅜	Darby Petroleum	351,390	$5	25cSA	7-15-38	.50	18⅝	6½	18⅛	9
3½	2	700	2¼	2	2	Derby Oil & Refining	263.162	N.P.	....	..	...	8⅜	2¼	6⅜	1⅞
31	21	50	21	21	21	Eureka Pipe Line	50,000	$50	50c	8-1-38	4.00	47½	24½	47½	38½
46⅞	33	4,200	44¾	41½	41½	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-38	1.00	63½	33	59	36
72⅝	56	1,800	70¾	67⅜	67⅜	Humble Oil & Refining	8,987,840	N.P.	62½c	10-1-38	2.00	87	54⅞	80	57
19½	15	1,200	17	16⅞	17	Imperial Oil of Canada	26.965,078	N.P.	62½cSA†‡	6-1-38	1.25	24¼	14½	24½	19⅝
9¼	6⅝	400	8¾	8	8	Indiana Pipe Line	300.000	$10	30c	5-14-38	.80	15	5⅞	9¾	5½
31¼	23	800	26⅜	25¾	25¾	International Petroleum	14.324,088	N.P.	$1.25†‡	6-1-38	2.50	39½	23½	39⅝	32⅝
5	3	800	3¾	3½	3½	Kirby Petroleum Co.	500.000	$1	10c	4-15-38	....	8¾	2⅜	5⅜	2⅝
25⅛	15⅝	3,000	23⅝	22⅝	22⅝	Lion Oil Refining	434,820	N.P.	25cQ	7-25-38	1.50	34	12½	17¾	7⅞
10¼	6⅝	1,100	9⅞	9¾	9¾	Lone Star Gas	5,533,747	N.P.	20c	8-20-38	.60	14¼	5¼	14¼	9⅞
9⅜	6½	1,600	7¾	7½	7½	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	9-15-38	.50	15¼	6⅜	15⅜	9⅞
9¼	6⅜	800	8¾	8½	8⅝	Midwest Oil Co.	998,444	$10	50c	6-15-38	1.00	14⅝	6¼	..	..
5¾	4½	900	5⅜	5⅛	5¼	Mountain Producers	1,593,584	$10	30cSA	6-15-38	.60	7⅞	4⅛	8⅜	5
14⅝	11⅝	1,600	12⅜	12	12	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-38	1.00	19½	12	23	17⅜
9¼	7¼	600	8⅛	7⅝	7⅞	National Transit	509,000	$12.50	35cSA	6-15-38	1.00	12½	7¼	15⅜	9¼
2⅝	1½	100	1¾	1¾	1¾	New Mexico and Arizona	1,000,000	$1	1c	12-1-36		5	1⅛	6⅝	1⅝
4½	4	No sales	..	..	..	New York Transit	100,000	$5	15c	4-15-38	1.00	5⅜	3⅞	6¼	4¼
6	4	No sales	..	..	..	Northern Pipe Line	120,000	$10	20c	6-1-38	1.00	12¾	5¾	9¾	4⅞
7⅜	3¾	5,700	5	4⅝	4⅝	Pantepec Oil	2,441,142	$1	....	.....		9⅝	2⅜	10⅛	3¼
3½	1⅝	800	2⅝	2⅛	2⅜	Root Petroleum Co.	336.045	$1	25c	2-1-37	.25	13¾	2	19¼	4½
4	2⅛	500	3	2⅝	2⅝	Ryan Consolidated	296.931	N.P.				6½	2¼	4⅝	1⅞
5⅜	3⅝	100	3¾	3¾	3¾	Southern Pipe Line	100,000	$10	15cSA	9-1-38	.45	7¼	3⅞	7⅞	3¼
39	28¾	200	35½	35	35	South Penn Oil	1.000.000	$25	50cQ†	6-30-38	3.65	56	35	44	32½
22¼	19	50	20¼	20¼	20¼	Southwest Penna. Pipe Lines	35,000	$50	50cQ	7-1-38	2.00	42	20	60	44
18¾	15	1,200	18½	17⅞	17⅞	Standard Oil of Kentucky	2,604,790	$10	25c	9-13-38	1.50	21⅛	14⅝	23⅝	17⅜
8½	6½	1,300	8½	8⅜	8½	Standard Oil of Nebraska	166,403	$25	25c	3-29-37	.25	13¾	8	14⅝	11
22¾	16¼	800	21¾	21⅛	21¾	Standard Oil of Ohio	753,740	$25	25c	9-15-38	1.50	45	16	40	21⅜
3¼	2⅛	3,800	2⅞	2⅜	2⅜	Sunray Oil	2,006,176	$1	10c	12-24-37	.25	4⅞	2	5	2⅝
5	3½	300	4¼	4¼	4¼	Texon Oil & Land	936,024	$2	15cQ	9-30-38	.45	7⅝	2	9⅝	5⅜
7⅝	4¼	1,400	6⅛	5⅜	6⅛	Transwestern Oil Co.	750.000	$10				13⅞	4⅝	..	..
5¼	2⅜	5,900	4	3⅜	3⅜	United Gas Corp.	7,818,959	$1	....	.....	...	13⅜	3	10⅜	4

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

New or Improved Equipment

World's Biggest Conveyer Belt Now in Use at Coulee Dam

The largest conveyor-belt ever manufactured, a product of the Mechanical Goods Division of the Goodyear Tire & Rubber Co., Akron, Ohio, is in

use at Grand Coulee dam, Washington. Operating on centers of 4,850 feet, the gigantic rubber belt is 9,700 feet long, approximately twice the length of the longest previous conveyor-belt ever employed.

Of 48-inch width and eight-ply construction, this belt was manufactured in eight separate pieces weighing 10 tons each, to facilitate its handling and transportation, and it was shipped in rolls approximately 10 feet in diameter. During installation the sections were vulcanized into one continuous endless belt weighing 80 tons.

A veritable rubber railway, the completed belt required 30 tons of cotton and 50 tons of rubber for its manufacture. In action the belt conveys coarse stone, which will comprise the aggregate for the huge dam that ultimately will span the Columbia River, a distance of approximately one mile from source to damsite destination.

Moving at a speed of 450 feet per minute the belt will carry the stone for an 11-minute ride, providing a flow of 2,000 tons per hour of aggregate required by the contractors for the project. Supplementing the main conveyor are some additional 20,000 feet of varisized belting used to gather, classify, store, recover and transport the aggregate through the screening and washing plant located at the source.

The illustration shows three sections of world's largest conveyor-belt leaving the belt room at the Goodyear plant to be prepared for shipment.

Bulletins, Booklets and Other Literature for the Trade

Laclede plastic firebrick is the subject of a 12-page booklet prepared for distribution by Laclede-Christy Clay Products Co., St. Louis, Mo.

The Sullivan Machinery Co., Michigan City, Ind., has prepared a two-color bulletin descriptive of its Series P compressed air and gas aftercoolers. These aftercoolers are available in six sizes for capacities from 125 to 755 c.m.f. They are easily installed as an integral part of the pipe line. A built-in moisture and oil separator is unusually efficient, according to the manufacturer.

A booklet illustrating the almost unlimited possibilities of stainless steel for consumer products and industrial applications may be obtained from Joseph T. Ryerson & Son, Inc., Box 8000A, Chicago. It includes a brief summary of Allegheny stainless products carried in stock for immediate shipment.

The current number of the Core Driller, published by Geo. E. Failing Supply Co., Houston, Tex., gives special prominence to Failing swivels for exploratory drilling.

Information about Mutex heavy-coated electrodes is given in a 32-page booklet mailed to applicants by Metal & Thermit Corp., 120 Broadway, New York.

The value of nickel-alloy steel chains in machines which must stand rough treatment is emphasized in one of the articles published in the latest issue of Nickel Steel Topics, published by the International Nickel Co., Inc., 67 Wall Street, New York.

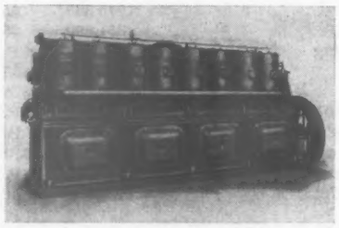
A bulletin on the Type HBD Vortex centrifugal pump for general industrial use is offered by Lawrence Pump & Engine Co., Box 70, Lawrence, Mass.

Valves with bodies made of cast molybdenum steel operate at temperatures as low as —150 degrees, according to an article in the current issue of the Moly Matrix, published by Climax Molybdenum Co., 500 Fifth Avenue, New York.

Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., is mailing on request a 12-page booklet describing and illustrating the Westinghouse Type C turbines for mechanical drive.

Worthington Adds New Unit to Its Series of Gas Engines

Worthington Pump and Machinery Corp., Harrison, N. J., has introduced its Type LPE gas engine, of vertical four-cycle design, a power unit



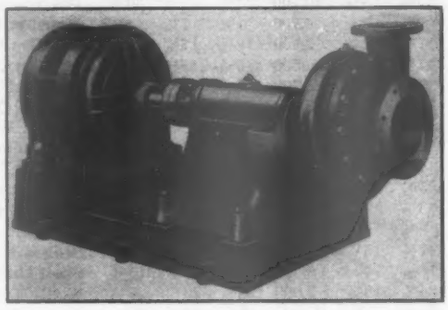
arrangement of the LCE gas-engine compressor unit. With the exception that frame extensions and running gears for the compressor cylinders have been omitted, the units are similar, and all component parts are interchangeable between them.

The LPE engine is of the multicylinder, trunk-piston type, with cylinders of the L-head design arranged in line. The entire unit is totally enclosed and has full circulating pressure lubrication throughout.

The straight-line arrangement of cylinders provides utmost accessibility and permits equal intervals between power impulses. This latter feature produces uniform turning effort and smooth operation with a small flywheel. A single magneto can be used for all cylinders. Units are available in 4-, 6- and 8-cylinder arrangements, conservatively rated at 180, 270, and 360 b.hp. when running at 400 r.p.m.

New Lawrence Pump Designed for Long and Hard Service

The accompanying picture illustrates the type HBD single-stage side-suction centrifugal pump announced by Lawrence Pump & Engine Co.,



Lawrence, Mass., maker of Vortex pumps. This unit is of especially rugged and heavy-duty design for general industrial pumping. Sizes range from 1½- to 18-inch discharge; capacities from 10 to 15,000 gallons per minute; heads up to 300 feet in the smaller sizes.

The pump casing is of solid volute type with removable suction-head. The eccentric nozzle on the suction-head permits removal without disturbing discharge pipe or pump alignment. It also eliminates air-pockets. The impeller is of the enclosed type, cast in one piece, balanced and locked on the shaft by a long key and nonrust impeller nut.

The supporting bracket and pump casing are separate parts with machined male-female, fit between to insure perfect alignment. As a further precaution to give accurate alignment the male-female joint and bearing seats on the supporting bracket are machined in one operation.

A close-grained cast-iron standard is provided for the pump casing. The fact that pump casing and bracket are separate parts permits the casing to be furnished inexpensively in special alloys for handling corrosive liquids. The impeller is made of cast iron, bronze, or special alloy when specified.

Two heavy-duty, double-row ball bearings, lubricated by an oil reservoir, and entirely external from the pump, support the shaft. The bearing nearest the pump carries the radial load only and is self-aligning. The outer bearing of angular type carries thrust and radial loads.

Inspection Service Expanded

E. W. Saybolt & Co., surveyors and inspectors in the analyses and shipment of petroleum and all other liquids, have expanded their facilities and now offer service in 17 American and foreign ports. Improvements of the past year in their laboratories at New York; New Orleans, La.; Houston and Corpus Christi, Tex., and Wilmington, Calif., enable them to handle every test prescribed by the A.S.T.M., A.P.I., S.A.E., Bureau of Mines, Bureau of Standards, and the U. S. Navy through officially standardized laboratory equipment. The firm is composed of A. M. Smythe and G. A. Cannan, with the home office at 140 Cedar Street, New York; Gulf Coast headquarters in the Petroleum Building, Houston, under supervision of C. M. Smythe, and West Coast headquarters at 529 Avalon Boulevard, Wilmington, Calif., in charge of J. E. Keith.

Set of Detachable Supersockets Is Introduced by Williams

J. H. Williams & Co., 75 Spring Street, New York, has announced a new set of detachable Supersockets for use with hollow screws. This set, composed of bits, parts and handles, is designed to replace the L-shaped wrenches and hex bar steel and provide greater speed and convenience in driving hollow screws.

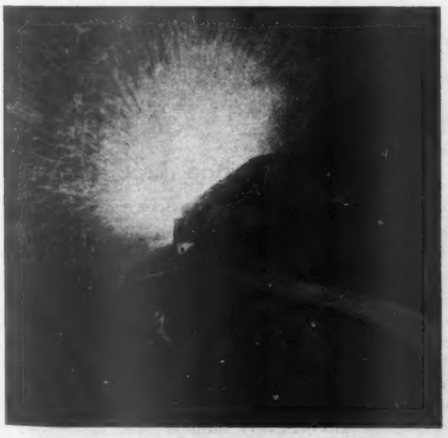
Set AL-101 contains 19 pieces. There are 10 bits for handling hollow (hex socket) set screws, one-quarter to 1⅜-inch, and hollow cap screws, No. 8 to 1-inch. These bits have a knurled end for fast spinning of screws until they become tight enough to be turned with the handle, or driver. There also are nine handles and parts, including two reversible Superratchet handles and Williams' new torque "Measurrench," No. B-21. The "Measurrench" provides an efficient tool for measuring right-hand turning torque and enables the operator to tighten hollow screws to the proper degree without danger of overload. The set is supplied in fitted steel case.

Metallizing Announces New Policy

Metallizing Co. of America, Inc., has changed its distributor policy and beginning September 1 all sales and service will be handled direct by factory branches. The New York and Chicago offices have been consolidated into a central office at 562 West Washington, Chicago. Complete stocks of Metallizing wire and parts will be carried at this point and a Metallizing shop will be maintained to give instructions to purchasers of Metallizing guns. This department will be in charge of E. T. Parkinson, formerly manager of the company's San Francisco office. Supervising all eastern activities will be L. E. Kunkler, president, and V. A. Cook, vice president at the central office in Chicago.

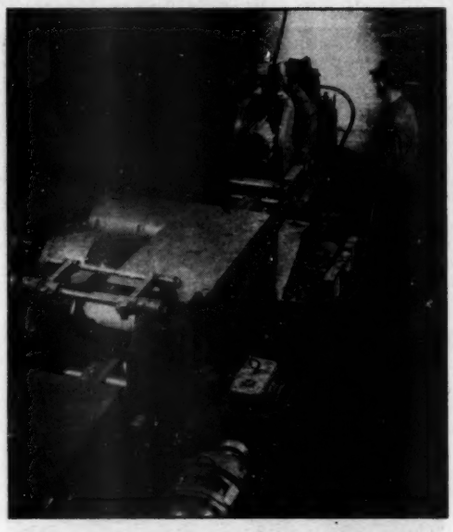
New Spang Chalfant Pipe Mill Employs Latest Processes

Buttwelded pipe in all internal diameters from one-half inch to 3 inches will be produced by Spang Chalfant & Co., Inc., in a recently completed unit at the company's Etna, Pa., plant. The unit is of the new continuous type, built under the Fretz-Moon patents. Advantages claimed for the process include reduced costs due to the continuous operation; close control of heating, with a more uniform weld, this in turn resulting in less waste and higher bursting strength, according to engineers.



Coil ends are welded to form continuous strip for further processing

Heat control is the heart of the process. Heat is produced by a continuous gas-fired furnace, equipped with recuperators. The furnace is provided with 274 direct-firing natural-gas burners. Temperature is graduated from 1,900° F. at the beginning or dead end of the furnace and rises to 2,900 degrees at the discharge end. The skelp enters the furnace conveyed by a series of heat-resistant alloy rolls, driven by a 3-horsepower, variable-speed, direct-current motor operating through chain drives. Each roll is operated on a separate chain to prevent stopping of all rolls in case of chain failure. Reason for this precaution is the rolls will sag, due to the intense heat, unless they revolve continuously. Thus failure of one roll will not destroy all rolls.



The flash is trimmed from the coil end joints in the equipment shown here

Skelp is supplied to the furnace in coils instead of flat lengths as in the conventional processes of pipe manufacture. The coils are 35 to 38 inches in diameter and weigh 600 to 1,800 pounds each, depending on their width, which of course determines the diameter of pipe made.

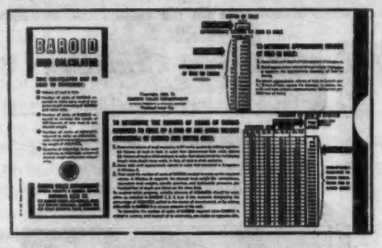
Crane's Newest Globe Valve Is Quickly Opened and Closed

Crane Co., Chicago, has designed a new brass globe valve (No. 237) for air installations where quick-opening, quick-closing valves are needed, especially in mines on air lines leading to pneumatic hammers. Among its features are an apron on the wheel to protect the upper part of the valve from rough handling and a brass screen in the union connection at the valve inlet to keep out foreign matter. It is made in three-quarters- and 1-inch sizes and is recommended for 150 pounds air working pressure. The composition disc can be renewed quickly and easily when necessary, according to the manufacturer. A spring maintains a constant load on the stuffing-box packing.

The valve has a nonrising stem which opens or closes in about a three-quarter turn. The stem rotates but does not rise, being held from vertical movement by the shoulder, which rests between the bonnet and stuffing-box. Turning the wheel raises or lowers the disc-holder, which is held from rotary movement by two vertical guides, one on either side of the holder.

Mud Calculator Helpful in Use and Control of Drilling Fluid

Designed to assist drillers in perfoming calculations in the use of control and drilling fluids.

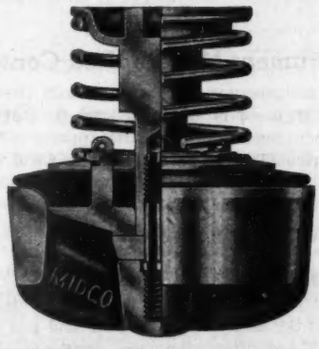


the Baroid mud calculator has been prepared by the Baroid Sales Department of the National Pigments and Chemical Division of National Lead Co. This calculator is a celluloid device working somewhat in the manner of a slide rule. It is 8 inches wide and 5 inches deep.

Among its various functions the mud calculator enables the operator to determine the volume of mud in the hole, the quantity of Baroid required to make a Baroid-and-water mud of a desired weight, and the quantity of Baroid required to increase the weight of any mud to a desired point. The calculator also aids in determining the quantity of material to be used in making up an Aquagel-water mud of a desired percentage by weight of Aquagel. Finally it aids in determining the quantity of Aquagel to be used in making up an Aquagel cement of desired weight and consistency. The calculator may be obtained from Baroid Sales Department offices at 837 Jackson Street, Los Angeles, Calif.; 1111 Second National Bank Building, Houston, Tex., and 502 Tulsa Building, Tulsa.

Valuable Features Embodied in Midco Slushpump Valve

Midco Tool & Supply Co., Oklahoma City, has introduced a slushpump valve which it says has been thoroughly field tested and found thoroughly efficient. It is a self-contained mudpump valve, embodying new and practical features. Compact and having few parts, the valve is light but rugged. The curved seat face is designed to reduce the cutting action of fluid and assures longer service from the valve. In tests Midco valve-seats are reported to have made 80,000 to 90,000 feet of hole with no appreciable wear. Valves are renewed by replacement impact washers and top assembly, requiring only a few moments' time,

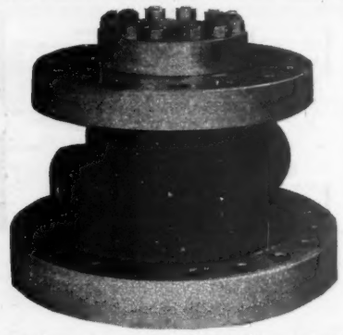


without the use of special tools. There is a uniform opening of all valves, controlled by a sleeve nut. This is said to eliminate valve-cup guide wear and permit smoother operation of the pump.

Parts for any one series are interchangeable for all makes of pumps. The valve is also made for all popular types and sizes of slushpumps, and is available through regular sources of supply.

Convenience of Taking Stretch in Casing String Is Feature

A feature of National Type EH casingheads, offered by National Supply Co., Toledo, Ohio, is the ease with which stretch can be taken in the



casing string. The mandrel coupling is provided with internal casing threads at both ends and external Acme threads for connecting to the mandrel. With the mandrel removed, the mandrel coupling can be attached to a special casing nipple and lowered into the outer string so as to suspend the inner string with the desired degree of stretch.

The packing arrangement, exclusive to National casingheads, is particularly effective. A single gland compresses two rows of narrow asbestos packing. The packing is easy to apply and can be compressed by one man using a small end wrench. The anchor ring, which retains the packing, also serves to hold the mandrel on its seat. It would prevent the parts from shifting, even though the inner string should part.

After the cement has set, when it is desired to take the stretch, the mandrel coupling is screwed on the spacing nipple. The landing joint is threaded through the mandrel and mandrel wrench and is screwed into the upper end of the mandrel coupling. This assembly is lowered into the well, where the spacing nipple is screwed on the top joint of the casing standing in the well. Stretch is taken and the mandrel is screwed into place with the mandrel wrench provided for the purpose. The casing is then slacked off, the landing joint backed out and packing installed.

Several types of connections are available on these heads. When they are threaded on both ends and the next smaller casinghead or the tubing-head is supported on a nipple attached to the mandrel coupling, the head is known as Type EH-1. The Type EH-3 is similar to the EH-1 except that the upper end is flanged. This flange permits attaching blowout-preventers or flanged tubing- and casingheads. The Type EH-4 casinghead (illustrated) has flanges at both ends.

Instrument Makers Hold Contest

An instrumentation contest, with a first prize of $200 in cash, is announced by the Industrial Instrument Section of Scientific Apparatus Makers of America. Twelve prizes, totaling $500, will be awarded. The contest is open to any engineer or operating man not employed by an instrument manufacturer. Each contestant is to write about an unusual application of a standard instrument or control device, telling briefly what conditions or need impelled the application. By instrument or control device is meant any device used for measurement or control in a plant or laboratory, or any accessory used with a device for measurement and control.

The contest will be judged by Lyman J. Briggs, director, National Bureau of Standards, chairman; M. F. Behar, editor Instruments; W. E. Forsythe, physicist; Nela Park, research department, General Electric Co.; John J. Grebe, director of physical research laboratory, Dow Chemical Co.: R. J. S. Pigott, head of engineering department, Gulf Research & Development Co., and (ex-officio) Phil T. Sprague, chairman, Industrial Instrument Section S.A.M.A., and president of the Hays Corp. The contest will close November 15, 1938, and the judging will be held during the week of December 5. Copies of the contest rules and official entry form can be obtained from Scientific Apparatus Makers of America, 20 North Wacker Drive, R. 3014, Chicago.

Drawworks Drills 50,000 Feet Without Single Replacement

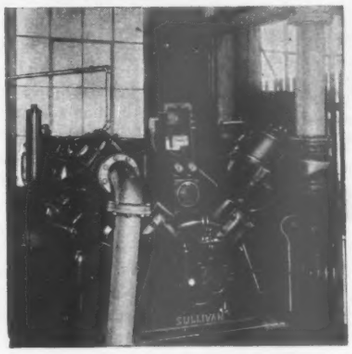
Another Ideco Big Giant drawworks which is making a record is the one owned by Jack Frazier, and operating at Eureka, just outside of Houston, Tex. This drawworks has drilled seven wells, totaling over 50,000 feet of hole, without a replacement. The chain is reported to show no

wear, and the unit is equipped with the original brake-lining with which it left the plant.

The accompanying picture shows Jess and Jack Frazier standing in front of their Big Giant These men are well known as drilling contractors along the Gulf Coast.

Compressor and Air Output Are Automatically Controlled

An interesting new application of the Sullivan WN-112 air and gas compressor announced by Sullivan Machinery Co., Michigan City, Ind., is



the installation illustrated. For this application, where the maximum output of the compressor is required intermittently and the continuous demand is light, Sullivan engineers devised selective electrical regulation which automatically controls the compressor and its air output economically. This control responds to the rate of air use, "sampling" taking place each time the compressor unloads.

When the maximum capacity is required, the compressor motor, of a built-in synchronous type, runs continuously and the compressor is loaded or unloaded to maintain the air pressure between 98 and 100 pounds. When the compressor unloads and the sampling feature indicates that the rate of air use is low, the motor stops, and the unit does not start again until the air pressure drops a predetermined amount, usually 10 pounds.

The adjustable pressure differential permits holding the desired terminal pressure to close limits during peak periods and allows the motor to shut down for a reasonable period when the need for air is light.

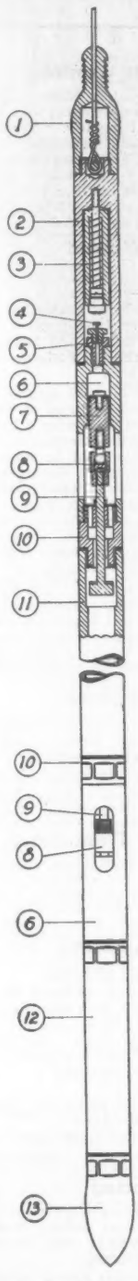
Welded steel tanks and gasoline plants, as fabricated and erected to specifications by Wyatt Metal & Boiler Works, Dallas and Houston, Tex., are illustrated in the July-August number of the Wyatt Way.

WILSHIRE GETS CORE DRILLING RIG FOR PROSPECTING

Core drilling rig purchased by Wilshire Oil Co., Inc., Los Angeles, Calif., for prospecting purposes. It is capable of handling 5,000 feet of 3-inch drill pipe. In moving, the double mast is folded and clamped in place. The rig built by Wilson Manufacturing Co., using Buda engines, was sold by H. and B. Sales Co., Ltd., of Long Beach, Calif., distributor for the Wilson equipment.

Ruska Announces Bottom-Hole Sampler for Oil-Field Work

Walter Ruska & Co., Inc., 2332 Bellaire Boulevard, Houston, Tex., is announcing a new bottom-hole sampler for oil-field work. The device is a sampling bomb for taking oil and gas specimens under pressure from the bottom of a well. The instrument is lowered into the well on a wire line to the desired depth. By snapping the line the valves of the sampler are closed and the sample, enclosed in a steel chamber, is brought to the surface for examination and analysis in the laboratory. The sampler is recommended for pressures up to 5,000 pounds per square inch. It takes a sample of approximately 250 cc. The instrument measures 1¼ inches O.D. and is 5½ feet long.



The sampler is made of stainless steel throughout. Valves, valve-seats and wire-line heads are hardened. The sampler is strong and every reasonable precaution is taken in its manufacture to produce a pressure unit that will withstand conditions in oil well sampling. The actual bursting strength of the sampling chamber is above 30,000 pounds. Threads on the sampler are standardized and allow the joining of several well-testing units with the sampler. A thermometer joint with maximum reading thermometer can be supplied to measure the temperature at which the sample is taken.

Walter Ruska & Co., Inc., furnishes all test equipment for determining the physical properties of the samples. The general routine setup consists of two volumetric mercury pumps, expansion bomb, water-jacket, water circulating pump, bomb-shaker and thermostatic-controlled water-heater. With this equipment any temperature, pressure and volume condition can be created for the samples.

The instrument is designed for use in deep-well operations and should prove of value in determining the conditions under which the hydrocarbons exist in these formations.

Here and There With Men Who Manufacture Equipment

Rector Well Equipment Co. has appointed M. C. Davis as its representative in the Rocky Mountain territory. Mr. Davis is working out of Casper and Parkerton, Wyo., on the sale of Rectorheads and the company's new thread-filler, Rectorseal.

M. E. Montrose, Gulf Coast division manager of Lane-Wells Co., announces that Morton T. Higgs has been made division sales manager; D. B. McCutchen, division operating superintendent; G. E. Matters, division foreman underground survey department; C. W. Barnes, division foreman directional drilling department; and P. M. Terrill, division credit manager. The directional drilling and well surveying departments are recent additions to the gun perforating and other technical service departments.

H. B. Cleveland, San Francisco, has been appointed factory representative in San Francisco and northern California for Air-Maze Corp., Cleveland, Ohio. His experience embraces 15 years in the field of industrial specialties and other phases of sales engineering.

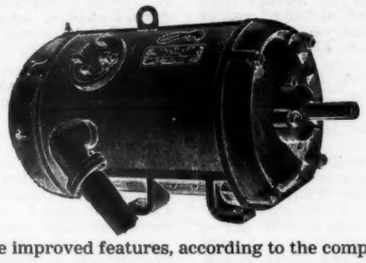
J. C. Barnaby, former manager of Worthington Pump & Machinery Corp.'s oil and gas engine application division in Buffalo, N. Y., has been placed in charge of special engineering work. W. E. Wetcher has been transferred from New York to Buffalo to succeed Mr. Barnaby. He will be assisted by J. F. Hecking. In the Atlantic division, oil engine sales will be covered by H. C. Wood in New York, while W. L. Russell, at Harrison, N. J., will take over the gas engine sales.

Republic Supply Co. has opened branch stores at St. Elmo and Salem, Ill. B. L. Rucker, formerly of Oklahoma City, Okla., is in charge.

S. P. Tschappat, general manager, Hercules Tool Co., Tulsa, is spending his vacation with his mother in Bellaire, Ohio. Before returning to Tulsa, Mr. Tschappat will tour the oil fields of Illinois, Indiana and Kentucky, studying drilling and production practices.

Louis Allis Develops New Line of Explosion-Proof Motors

A complete new line of D.C. explosion-proof motors is announced by the Louis Allis Co. of Milwaukee, Wis. This new line incorporates 18 separate improved features, according to the company. The motors have been inspected and explosion-tested by the Bureau of Mines laboratory and have also been tested, listed and approved by the Underwriters' Laboratories. Bulletin No. 520 illustrates and describes this new line of motors.



Low-Alloy Steel Welding Rod

The Linde Air Products Co., unit of Union Carbide & Carbon Corp., has announced a new low-alloy steel welding rod, Oxweld No. 32 C.M.S. steel welding rod, for applications requiring welds of particularly high strength. It was developed primarily for insuring uniformly high-quality welds in high-strength steel pipe and plate welded by the Lindeweld process. This rod, it is reported, develops an average tensile strength of 10,000 to 12,000 lb. per sq. in. greater than rods previously made by this company, yet has sufficient ductility to meet any requirements.

Another outstanding characteristic of this new rod, the company says, is its exceptional resistance to overheating in the molten state. Because of this, the rod is particularly suitable for use with the new four- and six-flame tips which have recently been developed for Lindewelding pipe lines. When applying this rod, the weld metal sets up more rapidly, making it easier to control the puddle on a curved or vertical surface. This makes greater welding speeds possible and also effects a reduction in gas consumption per weld.

Security Lead Seal Packer Is Simple in Its Setting Action

Security Engineering Co., Inc., Whittier, Calif., has developed a lead seal packer that is said to be extremely simple in its setting action. It requires no twisting or turning to set, has no slips, and eliminates danger of setting the packer in the wrong location. The new packer consists essentially of a hook collar and the packer itself. The hook collar is made up at the desired position in the casing string, replacing a regular casing coupling. The packer has strong springs around its circumference, so engineered that they cannot catch on the casing couplings while the tool is being lowered into the hole. However, as soon as the packer reaches the specially formed recess of the hook collar the springs instantly expand and lock the packer against further downward progress. Then it is only necessary to lower the weight of the run-in string straight downward against the springs, thus expanding the packer and forming a fluid-tight seal.

When it is desired to remove the packer a straight lift only is required to pull the springs free and allow it to be quickly withdrawn from the hole.

A special circulating joint can also be run with the packer for multiple production work, or wherever it is desired to establish circulation between production strings. This joint has two long slots on opposite sides of the body, and when the run-in string is lifted straight up these ports are opened, allowing circulation to be established between the inside and outside of the string. When the run-in string is lowered, the joint telescopes, thus closing the ports and automatically making a fluid-tight seal against a lead ring.

Truck Operators In Market

Truck operators, from single-unit owners to fleets, stepped back into the market on a big scale in July, it was indicated by reports released at the home offices of the Ford Motor Co., Dearborn, Mich. In the face of averages during the last four years, sales of Ford V-8 trucks in July showed an increase of 42.5 per cent over sales in June. Commercial car sales were up 17 per cent over sales in June. July sales in recent previous years showed a drop under those in June. Ford V-8 truck sales in July totaled 6,235 units, as compared with sales of 4,353 units in June. July commercial car sales were 5,273 units, against 4,486 in June. Large-scale demand for new truck units in rural sections, largely for use in harvesting the season's huge crops, was reported. Part of the increase in truck sales was attributed to the wide distribution of the new Ford V-8 cab-over-engine units immediately following their announcement.

American Machine Shop at Harvey

The new American Iron & Machine Works Co.'s modern machine shop at Harvey, La., is equipped to handle heavy oil-field equipment. George S. Hinkle, Gulf Coast manager for the company in Houston, Tex., is in charge of the new shop. Al Backstrom is shop foreman.

CLASSIFIED ADVERTISING

Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER

Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

PATENTS — TRADE MARKS

All cases submitted given personal attention.

Form **"Evidence of Conception"** with instructions for use and **"Schedule of Government and Attorneys' Fees—FREE**

LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg. Washington, D. C.

PATENTS obtained — inventions developed — working drawings — engineering advice. Mid-Continent Engineering Company, E. H. Waldrop, Shawnee, Okla

Leases and Drilling Blocks

SECURITY ABSTRACT COMPANY

El Dorado, Union County, Arkansas. Magnolia, Columbia County, Arkansas. Fee, Lease and Mineral ownership on short notice. Ownership maps.

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up. Owners—Address Attorney, Box 1122, Little Rock, Ark

DEALERS and SALESMEN

Don't wait! Write today for our lease offer. Others like yourself are making money selling these leases —you can do the same. Complete selling story, and elaborate maps furnished free. Write quick for details.

RUBUSH and COMPANY
1307 Pacific Ave., Dallas, Texas

WHY PAY big prices for Oil Leases when potential land in fee, all royalty, can be bought for $5. Investigate. J. N. SWANSON, Sayre, Oklahoma.

50,000 A. in and near Ill. production area. Consider drilling deal. Illinois Minerals Co., Cairo, Illinois.

DRILLING deals wanted 50,000 acres Southern Illinois in and around production area. Elmer Gant, Anna, Illinois.

FOR SALE—75% interest in 840 acres semi-proven Oil and Gas leases near Celina, Tenn. Within one mile of proven acreage. Drilling rates reasonable. Frank H. Blum, Agent, 1205 Union Trust Bldg., Cincinnati, Ohio.

ABOUT 4000 acre block Massac County, So. Illinois, on structure, low rentals. Quick sale $1 per acre. J. N. Lawler, Girard, Kans.

BUY UNDER DRILLING WELL ON SABINE UPLIFT

Will sell small part of our leases in 10, 20, and 40 acre tracts to help meet expenses of drilling well which is now down 500 feet, on south flank of Sabine Uplift, Louisiana.

Also have limited number of producing royalties in Duval County, Texas.

JOSEPH E. POPKINS
Natl. Press Bldg., Washington, D. C.

OPPORTUNITY for lime production at 950 ft. 40 acre lease ¼ mile of drilling well $300, 40 acres ½ mile of well $150. Good geology. Also 40 acre offset to two producing wells 730 ft. $400. Particulars Box 10, Kincaid, Kansas.

Leases and Drilling Blocks

N. MEX. weekly Oil Scout Report up to minute locations and developments. Send $1.00 for 2 months' service. Ray G. Barton, Hobbs, New Mexico.

TRADERS, owners and investors in production, royalties, leases and lands in the Texas Panhandle, Okla., and New Mex. Am quitting the brokerage business after 30 years here and offering my services to the public. A report and opinion on any deal or value offhand one dollar. Inspections and reports higher. E. B. Reeves, Alanreed, Texas.

OWNERS of bargains in production, royalties, leases and lands. I have quit the brokerage business, but have friends and clients who will buy your bargains. E. B. Reeves, Box 13, Alanreed, Gray County, Texas.

BLOCK 600 Acres. Fayette County near Beecher City. Structural limestone formation. Want immediate test. Sixteenth over-ride. Elton Beck, Herrick, Illinois.

BREWSTER COUNTY—TEXAS
Offer small tracts of land in fee all minerals included CHEAP. Write A. C. Smith. P. O. 200, San Antonio, Texas.

TO lease for oil and gas 25-12-3 and 26-12-3, Lincoln County, Okla. W. N. Lindsey, 1346 N. Beard St., Shawnee, Okla.

CENTRALIA ILLINOIS PRODUCTION
Dissolving partnership. Will sacrifice several wells at extremely low price. Producing approx. 50,000 bbls. month. All new equip. Quick payout. Address Box J-545, The Oil and Gas Journal, Tulsa, Okla.

SEVERAL surface mapped oil structures, edge Permian Basin. You check and deed me land, small mineral rights. Address Box J-540, The Oil and Gas Journal, Tulsa, Oklahoma.

ILLINOIS BLOCKS of acreage available, for ninety day drilling commitments, in shallow sand, and deeper lime areas in Bond, Fayette, Clay and Wayne Counties.

BOX 57, FLORA, ILLINOIS.

Survey Service

THE DOWSING METHOD for locating oil structures, faults, and treacherous areas, operates on the principal of vibratory response to emanations from petroliferous sub-strata. Our WATSON No. 2, pioneer well of the Wilmington, Calif. field was located by this method and all my personally owned production. 15 years' experience. This physico method may solve all your structural difficulties. Geo Miller, 1548 Post Avenue, Torrance, California. Phone 983.

Situations Wanted

ACCOUNTANT-ENGINEER, young, desires position with progressive concern CERTIFIED PUBLIC ACCOUNTANT. University graduate. Specialist in oil accounting and tax matters. Unusual experience in effecting savings in tax and record costs. Tactful and conservative. Present position limited in opportunity. Details exchanged in confidence. Address Box J-525, The Oil and Gas Journal, Tulsa, Oklahoma.

MECHANICAL Engineer, want foreign work as junior engineer. Employed by major oil company. Desire more responsibility and compensation. Practical experience—roughneck, roustabout, well servicing, designing pumping units, bottom-hole pressure work, weighing wells and analyzing well troubles. Age 27, single, excellent health. Details exchanged in confidence. Address Box J-530, The Oil and Gas Journal, Tulsa, Oklahoma.

COLLEGE GRADUATE, male 22, University of Arkansas 1938, desires position with oil or gas company. Experienced in typewriting, shorthand, general office work, but will do anything. Ambitious, energetic, willing to start from bottom. Arthur Meyer, 686 Academy St., New York City.

SAFETY ENGINEER
Now employed wishes change of location, over 16 years' refinery experience. Address Box J-542, The Oil and Gas Journal, Tulsa, Oklahoma.

CIVIL Engineer, wants foreign work as junior engineer. Four years of varied experience as instrumentman and draftsman. Age 26. Excellent health. Single. Address Box J-541, The Oil and Gas Journal, Tulsa, Oklahoma.

ATTORNEY-ACCOUNTANT, age 31 yrs., oil company experience. Now employed, desires change. Address Box J-526, The Oil and Gas Journal, Tulsa, Oklahoma.

CONSTRUCTION Superintendent experienced in supervision construction refinery and cracking plants. Sixteen years' refinery construction exp. Address Box J-531. The Oil and Gas Journal, Tulsa, Oklahoma.

COMBINATION WAREHOUSEMAN AND FIELD OFFICE CLERK, desires foreign job. Ten years' experience in Gulf Coast with major company and still employed by same company. Knows oil field equipment and material, and thoroughly experienced in handling all warehouse and field office records. Prefer South America. Age 34. Address Box J-523, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

NOW AVAILABLE. Executive and Accountant. 18 years experience with independent producing companies. Thorough knowledge accounting, financing, stock registration, federal and state taxes and business law. Desire connection with company needing services in line with these qualifications. Address Box J-532, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

SALES AGENTS with established contacts wanted to sell equipment to oil, coke and chemical companies. Interested parties located in or near Boston, New York City, Philadelphia, Chicago and Michigan. Address Box J-522, The Oil and Gas Journal, Tulsa, Oklahoma.

MANUFACTURER of well known line pipe fittings is seeking services of Texas-Gulf Coast representative having a knowledge of refinery piping practices as well as a following in this field in both engineering and purchasing departments. This position would necessitate traveling the States of Louisiana and Texas with headquarters at Houston. Write briefly your qualifications and state remuneration desired. Address Box J-533, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED—Mechanical Engineer familiar with oil field pumping equip. to take charge of mfg. and designing equip. State exp., age, and references. Replies strictly confidential. Address Box J-543, The Oil and Gas Journal, Tulsa, Okla.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Ranches and Farm Lands

317 ACRES farm land. Good improvements, on Mattoon's oil structure. Coles County, 3 miles South of Mattoon. Leased Carter company. Price $150 per acre, easy terms. Mark Hortenstine, Gays, Illinois.

For Sale—Maps

1938 REVISED EDITION

MAP of State of Texas, Eastern N. M., parts of Southern Okla., SW Ark. and La., shows Oil and Gas Fields in color, Counties, County Seats, elevations, coordinated alphabetical index of counties and fields. Price $1.00 postpaid

Write for descriptive folder of Oilfield and County Ownership Maps.

ZINGERY OIL MAP COMPANY
Fair Building **Fort Worth**

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

INQUIRIES SOLICITED FROM CORPORATIONS INTERESTED IN RAISING CAPITAL THROUGH THE MARKETING OF CORPORATE SECURITIES.
BROWN HARTWELL COMPANY
110 EAST 42 ST., NEW YORK

CAPITAL CONTACTS arranged for new and old established enterprises, seeking assistance for expansion or increased production purposes. New corporations organized, assisted and placed under way. Personal Service Bur., Box 113, Wilmette, Illinois.

Equipment Wanted

WILL BUY good national 3-A-6 drilling machine. Write
Box 208, Eldorado, Kansas.

WANTED—Motor powered rotary drilling rig complete, capable of 3500 to 4000 ft. Will pay cash. Must be good condition and bargain. Send full description. Address Box J-544, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED—Two 5,000-Barrel or one 10,000-Barrel used tanks for storing Crude Oil. Must be cheap and good condition. Quote price set up delivered oil field 15 miles from Henderson.
J. L. LAMBERT, Henderson, Ky.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma